MARIA AVENUE DEVELOPMENT

FIRE PROTECTION PLAN

(Environmental Log #08-19-003)

(APN's 584-200-66, 67, 71, 72, 73, 74, 75, 76, 77 and 78)

San Miguel Fire Protection District

September 16, 2008

(Revised December 19, 2009)

Applicant: **Dictionary Hill Developers, LLC**
3940 Hortensia Street
San Diego, CA 92110

Prepared & Certified By: _____

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FIREWISE 2000, Inc. **An International Consulting Firm**
David Bacon, President
Richard E. Montague, President Emeritus

"Wildland Fire/Urban Intermix Planning"

December 30, 2009

Paul Dawson, Fire Marshal
5210 Ruffin Road, Suite B
San Diego, CA 92123

In accordance with the SD County correction notice dated July 23, 2009, the following corrections/additions have been made to the Maria Avenue Fire Protection Plan:

Section 4.3 Water Supply Second Paragraph
The following sentence has been added:
The water meter for each home must be adequate for the demand of domestic water use, plus interior fire sprinklers, plus the full demand of any emergency irrigation system installed.

Section 4.8 Non-Combustible Wall with Automatic Emergency Irrigation System
The following sentence has been added to the first paragraph:
Except where tempered glass is utilized the wall shall be constructed of slump stone or CMU in earth tones.

The following sentence has been moved to the end of the second paragraph:
Each lot owner shall be responsible for the maintenance of the automatic emergency irrigation system on their respective walls.

The following sentence has been added to the third paragraph:
Although an emergency irrigation system is not accepted by San Diego County and the local Fire Marshal as mitigation for the lack of 100 feet of fuel modification, Firewise 2000, Inc. strongly believes that the addition of the emergency irrigation system will reduce the threat to the structures from radiant heat and embers.

Item #5 has been changed to read:
In addition the main line and water meter serving the residence must be capable of sustaining the domestic water supply, the emergency exterior irrigation sprinkler system and the interior fire sprinklers of the house at the same time.

Section 5.0 Third Bullet
The following sentence has been added:
The wall shall be constructed of slump stone or CMU and consist of earth tone colors to mitigate visual impacts.

Sincerely,

David C. Bacon

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Executive Summary

This Fire Protection Plan (FPP) evaluates the proposed Maria Avenue development to ensure it does not unnecessarily expose people or structures to fire risks and hazards. The FPP identifies and prioritizes the measures necessary to adequately mitigate those impacts. The FPP has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions and fire history. It considers water supply, access, structure ignitability and fire resistive building materials, fire protection systems and equipment, impacts to existing emergency services, defensible space and vegetation management.

The project was analyzed to identify potential adverse impacts and to identify adequate measures for impacts resulting from wildland fire hazards. The evaluation determined that the San Miguel Consolidated Fire Protection District along with nearby fire departments will be able to provide adequate emergency services. CAL FIRE (under the State Responsibility Area Agreement) as well as other fire departments and fire protection districts, can be requested under a Mutual Aid agreement to respond in the event of wildfire event in the area. Response times and the proximity of the development to the Wildland Urban Interface (WUI) in a very high fire hazard severity zone require that fire sprinklers be installed in all residences.

In addition, this FPP lists fuel modification requirements to mitigate the exposure of people or structures from a significant risk of loss, injury or death from wildland fires. Zone 1 will be an irrigated landscaped zone and is commonly called the defensible space zone for fire suppression forces and protects structures from radiant and convective heat. This landscaped zone is permanently irrigated and consists of fire resistant and maintained plantings. Zone 2 is the area beyond Zone 1, including manufactured slopes and excludes all prohibited highly combustible native vegetation, but permits plantings with very specific criteria. The individual lot owners will be responsible to the San Miguel Fire Marshal for the annual completion of all designated Fuel Modification Treatments prior to June 15th each year or when fuels become cured.

Finally, this plan and its requirements will be incorporated by reference into the final project Conditions of Approval to ensure compliance with codes/regulations and significance standards.

Maria Avenue Development
Fire Protection Plan

1.0 - INTRODUCTION

This Fire Protection Plan (FPP) has been prepared for the Maria Avenue development. The purpose of the FPP is to assess the potential impacts resulting from wildland fire hazards and identify the measures necessary to adequately mitigate those impacts. As part of the assessment, the plan has considered the property location, topography, geology, combustible vegetation (fuel types), climatic conditions, and fire history. The plan addresses water supply, access (including secondary/emergency access where applicable), structural ignitability and fire resistive building features, fire protection systems and equipment, impacts to existing emergency services, defensible space, and vegetation management. The plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will protect the development and essential infrastructures. The plan recommends measures that property owners will take to reduce the probability of ignition of structures throughout the area addressed by the plan.

The plan will be submitted to and approved by the San Miguel Consolidated Fire Protection District (SMCFPD) and is based upon requirements of the SMCFPD and San Diego County regarding Wildland Fire Protection Plans, including pertinent local Fire Ordinances, the Wildland-Urban Interface (WUI) Development Standard Guidelines and the requirements under the authority of the International Urban-Wildland Interface Code, 2003 edition, San Diego County Consolidated Fire Code, California Code of Regulations Title 24, Part 9, which is based upon the 2000 Uniform Fire Code, 2007 California Fire Code-revised January, 2008; the Local Amendments to the 2007 California Fire Code including appendices to Chapters 1 & 4 and appendices B, F & H and the IFC (2006 edition); Chapter 7A-California Building Code and the California State and Local Responsibility Area Fire Hazard Severity Zone Map; California Government Code, sections 51175 through 51189; the California Code of Regulations, Title 14, section 1280; California Public Resources Codes sections 4201 through 4204; the 2007 Fire Code portion of the CBSC, including appendices to Chapters 1 & 4 and appendices B, F & H, the 2006 International Fire Code (IFC) and the National Fire Protection Association Standards 13, 13-R & 13-D, 2002 Editions; and ORDINANCE NO. 9915 (N.S.) adopting a new Title 9 to the County Code entitled "Construction Codes and Fire Code", and SMCFPD Ordinance #2007-03.

2.0 PROJECT LOCATION, DESCRIPTION AND ENVIRONMENTAL SETTING

2.1 Project Location

The proposed Maria Avenue project (APN's 584-200-66, 67, 71, 72, 73, 74, 75, 76, 77 and 78; Environmental Log #08-19-003) is located in a rural area of San Diego County in the unincorporated community of Spring Valley just north of the Sweetwater Reservoir (see Photo #1). The primary access is via San Carlos Street to Maria Avenue or to La Presa Avenue.

2.2 Project Description

The proposed Maria Avenue development by Dictionary Hill Developers, LLC consists of the building of eight (8) single-family homes on eight (8) lots approximately 35 feet x 100 feet in size. The lots were created in 1887 and therefore are not subject to the 8 acre minimum lot size required for the area. As part of the project, the development would be rezoned to change the front yard setback requirements from the 60 foot standard setback to a 50 foot setback and interior yard setbacks from 15 feet to 5 feet. The land is currently undeveloped and surrounded by a mix of designated open space and developed land (see Photo #1).

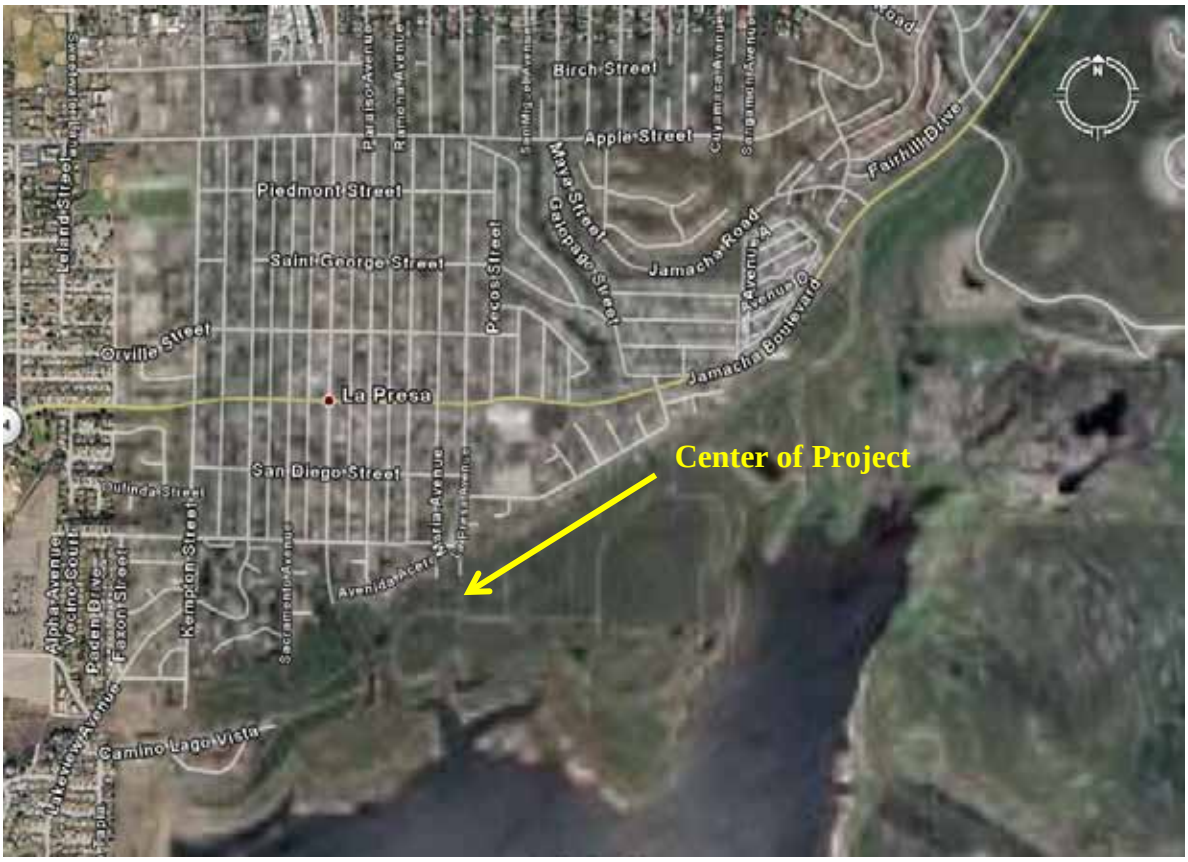

Photo # 1 – Aerial Photo of Project Area; Note Sweetwater Reservoir to the South of the Proposed Project

2.3 Environmental Setting

2.3.1 Dates of Site Inspections/Visits Conducted - Two site visits were conducted, as well as several telephone calls to determine pertinent information.

Site Visit & Purpose	Date
#1 Initial field visit Evaluate lot layout and primary and secondary access road locations	April 24, 2008
#2 Field visit Evaluate vegetation, road conditions, and fire access	May 7, 2008

2.3.2 Topography - The project site is presently undeveloped and located in relatively flat terrain approximately fifteen (15) miles inland from the ocean. Slopes on and adjacent to the site range between 10% and 15% and on-site elevations range from 285 feet to 325 feet.

2.3.3 Climate - The climate within the project area is characterized as a Mediterranean type climate with generally mild, wet (14 -16 inches per year) winters, with the bulk of the annual precipitation falling between January and March. Long, hot and very dry summer seasons frequently occur with occasional, multi-year droughts.

The most critical wind pattern to the project area is an off-shore wind coming out of the north/northeast, typically referred to as a Santa Ana wind. Such wind conditions are usually associated with strong (> 60-MPH), hot, dry winds with very low (< 15%) relative humidity. Santa Ana winds originate over the dry desert land and can occur anytime of the year; however, they generally occur in the late fall (September through November). This is also when non-irrigated vegetation is at its lowest moisture content.

The typical prevailing summer time wind pattern is out of the south or southwest and normally is of a much lower velocity (5-15 MPH with occasional gusts to 30-MPH) and is associated with higher relative humidity readings (> 30% and frequently more than 60%) due to a moist air on-shore flow from the ocean.

All other (northwest, south, west) wind directions may be occasionally strong and gusty: however, they are generally associated with cooler moist air and have higher relative humidity (> 40%). They are considered a serious wildland fire weather condition when wind speeds reach greater than 20-MPH.

2.3.4 On-site Vegetation – The project area consists mostly of native plant communities of which Coastal Sage Scrub is the predominant vegetation type. Species found in the area include lemonade berry, prickly pear cactus, cholla, black sage, California buckwheat, and native and non-native grasses (See Photo #2). If left undisturbed the natural vegetation in the project area can be characterized as a Fuel Model SCAL 18 – Sage/Buckwheat with 1 hour fuels of 5.5 tons/ac and 10 hour fuels of .8 tons/acre.

Photo #2 – Typical Coastal Sage Scrub on the South Side of the Project

Photo #3 – Looking South Along the Eastern Boundary. Note the Reservoir in the Distance

The most notable wildland fire threat to this proposed development is from firebrands/burning embers from off-site flammable native and non-native vegetation, particularly from the southern and eastern boundary areas (See Photo #3).

2.3.5 Fire History - The available data suggests that in the second half of the 20th century the frequency of small fires increased in southern California while their average size decreased. In San Diego County, this has resulted in an increased rate of burning in low elevation coastal scrubland, especially the coastal sage scrub formation near the urban development areas. It also indicates over 600 significant fires in the foothills and mountains from 1910-1999. Recently, however, several years of drought have contributed to major fires (in excess of 50,000 acres) that have swept through San Diego County, resulting in large losses of property and damaged watershed.

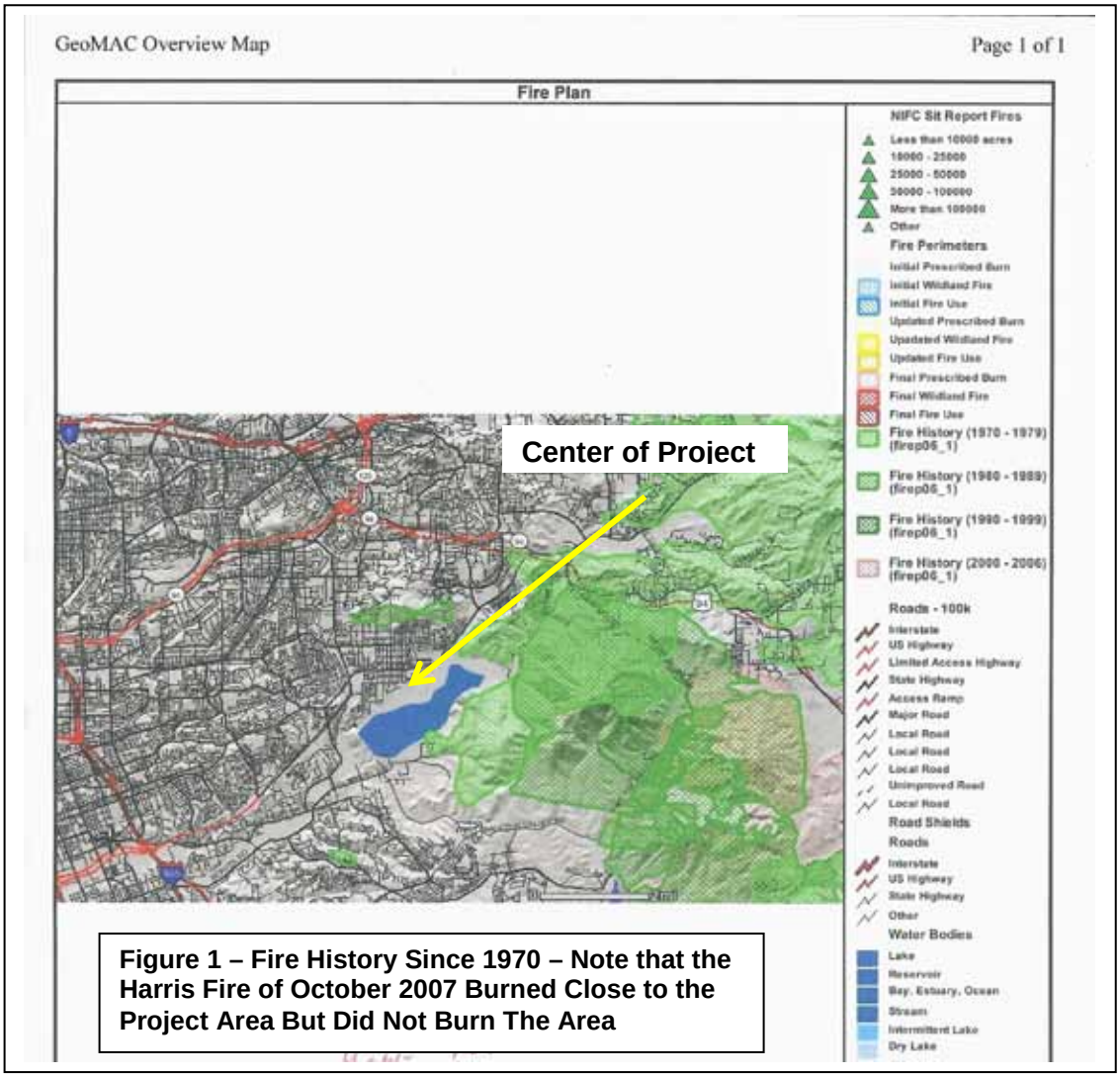

Figure 1 – Fire History Since 1970 – Note that the Harris Fire of October 2007 Burned Close to the Project Area But Did Not Burn The Area

The most recent fire in the area surrounding the project was the Harris Fire of October 2007 (Shown in green on Figure 1). It burned 90,440 acres to the south and east of the project area, resulting in the loss of over 400 homes and 5 deaths.

Based on the above information, the fuel modeling in this report reflects the worst case scenarios that could be expected in the future.

2.3.6 On-site and Off-site Land Uses - The existing parcels of land proposed for development are currently in a natural state. There is no evidence of previous agricultural activity and the surrounding land is either developed land or protected open space. A portion of the south side of the development is adjacent to a Caltrans right- of-way adjacent to the Sweetwater Reservoir and designated open space.

2.3.7 Public and Private Ownership of Land in the Vicinity - The applicant owns all property within the project area. All other properties in the vicinity are existing developed or undeveloped private parcels or set aside open space as part of the Sweetwater Reservoir. A Caltrans right-of-way is adjacent to the southern property line of Lot 6.

3.0 GUIDELINES FOR THE DETERMINATION OF SIGNIFICANCE

A Fire Protection Plan evaluates the potential adverse environmental effects that the Maria Avenue residential development may have from wildland fire and proposes appropriate mitigations for any adverse impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death in regard wildland fire. The following guidelines for the determination of significance are used:

1. Would the project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

2. Would the project result in inadequate emergency access?

3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service ratios, response times or other performance objectives for fire protection?

4. Would the project have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

4.0 ANALYSIS OF PROJECT EFFECTS

The project demonstrates compliance, or offers the 'Same Practical Effect', with applicable fire regulations, including but not limited to the California Fire Code, California Code of Regulations, County Fire Code, or the County Consolidated Fire Code.

The comprehensive Fire Protection Plan and the project design are consistent with the San Diego County DPLU recommendations, including fuel modification.

The project meets the emergency response objectives identified in the Public Facilities Element of the County General Plan or offers Same Practical Effect.

4.1 Adequate Emergency Services

The project site is located within the San Miguel Fire Protection District. The closest fire station is Station 16 located at 905 Gillespie Drive in Spring Valley, approximately 1.2 miles from the project site. Using National Fire Protection Association (NFPA) Standard 1142 (2007 edition) Table C1.11 (b) the expected emergency travel time to the project site from this station is estimated at three (3) minutes. Station #15 is the next closest fire station located at 2850 Via Orange Way, approximately 3 miles from the subdivision. Estimated response time from this station to the site is approximately six (6) minutes, according to NFPA Standard 1142 (2007 edition) Table C1.11 (b).

The project would not directly result in the expansion of area fire protection services. CAL FIRE as well as other fire departments, can be requested under Mutual Aid agreements to respond to wildfire events.

4.2 Access Roads and Gates

The main access to the project is via San Carlos Street to Maria Avenue or La Presa Avenue. Maria Avenue and La Presa Avenue will be extended from San Carlos Street to the southern boundary of the subdivision. These roads will be private roads and maintained by the HOA.

All roads will be all-weather paved surfaces capable of supporting fire apparatus weighing up to 50,000 pounds. The minimum width shall be 24 feet with a vertical clearance of 13 feet 6 inches. Roads or driveways shall not exceed 20%. Grades exceeding 15% shall have a surface of Portland Cement Concrete with a rough broom finish perpendicular to the direction of travel. The angle of departure or approach shall not exceed 7 degrees or 12%. However no roadways within the subdivision will exceed 10 percent.

Curbs on streets and turn arounds shall be painted red and stenciled “NO PARKING FIRE LANE”. All dead end roadways exceeding 150 feet in length shall be provided with approved means for the turning around of emergency apparatus. All roads and streets shall meet the minimum 28 foot turning radius measured from the inside edge of the improvement width. The minimum radius width for all cul-de-sacs shall be 36 feet.

The Maria Avenue development will not be a gated community. However, should any gates be installed in the future, all gates including gates on private driveways or roadways, shall be set back 30 feet from the roadway, automatic, and equipped with an approved emergency key-operated switches overriding all command functions and opening the gate(s). Gates shall also be equipped with an approved emergency tract control-activating strobe light sensor(s) or other devices approved by the San Miguel Consolidated Fire Protection District, which will activate the gate on the approach of emergency apparatus with a battery back-up or manual mechanical disconnect in case of power failure.

4.3 Water Supply

The project will obtain its water supply from the Otay Water District. An extension of the public water system with new pipelines and hydrants will be built to serve the area.

The required fire flow for the project is 2500 gpm, per Section 903.4.2.2, of the San Diego Consolidated Fire Code requirements, at pressures required to supply fire sprinklers and provide 20 PSI residual at hydrants during periods of maximum peak domestic demand. Pressure demands for fire sprinklers will be higher. The water meter for each home must be adequate for the demand of domestic water use, plus interior fire sprinklers, plus the full demand of any emergency irrigation system installed.

Fire hydrants shall be located at each intersection, at the beginning radius of each cul-de-sac, at each hammerhead turnaround and every 650 feet of fire access roadways or as located and approved by the San Miguel Fire Marshal and shall meet San Miguel Fire Protection Ordinance 2007-02, Section 508.5.1.1 and Table 508.5.1.1A. Hydrants shall be of bronze construction and be equipped with a minimum of one 4” NST outlet and one 2 ½” NST outlet and be placed on a 3’ x 3’ concrete pad for weed control. Blue markers shall be placed in center of roads opposite fire hydrants. Curbs if provided shall be painted red adjacent to fire hydrants and bollards shall be provided if necessary to protect the hydrants.

4.4 Ignition Resistant Construction and Fire Protection Systems

All structures shall be built to San Diego County Code including San Diego County “enhanced” fire-resistive construction requirements as outlined in the California Building

Code Chapter 7A (See APPENDICES 'D' & 'E'). All residential structures will have automatic fire sprinklers. The fire sprinkler system shall meet NFPA 13D and the County of San Diego requirements. In addition to the required "enhanced" fire resistive construction requirements the following additional construction features shall be required for the houses on Lot 31 and Lots 6, 7 and 8.

- Interior fire sprinklers shall be extended through the exterior walls to the eaves on the south and east sides of the structures.
- All exterior doors shall have automatic door closers.

4.5 Defensible Space and Vegetation Management

4.5.1 Off-site Fire Hazard and Risk Assessment – The Maria Avenue development is located in an area that is currently rated as a moderate fire hazard severity zone. However, the area is currently being re-evaluated and will shortly be reclassified by CAL FIRE as a very high fire hazard severity zone. The proposed subdivision is approximately (15) miles inland from the ocean and is bordered by developed private land on the north, undeveloped and developed private land on the west and east and designated open space on the south. A wildland fire threat will come from a wildland wildfire burning in the undeveloped off-site highly flammable native and non-native vegetation east of this proposed subdivision. Firebrands will be of particular concern in a northeast or east wind condition. An additional wildfire threat is possible from the recreational preserve to the south and west under typical or extreme prevailing southwest wind conditions.

4.5.2 On-site Fire Hazard and Risk Assessment - Most of the vegetation to the east and south of the project area burned in the 2007 Harris Fire. If left undisturbed by natural events or without any fire hazard abatement practices the project area's vegetation would again become a mature Coastal Sage Scrub community, characterized as a Fuel Model SCAL 18 – Sage/Buckwheat. These fuels are of the most concern for the project area during a worst case scenario northeastern wind pattern (Santa Ana) with hot dry wind speeds that could reach 60 MPH. In this vegetation type, a high percentage of the vegetation would have an abundance of dead material. This is especially true of the black sage plants. This is due to the effects of the local Mediterranean climate where warm wet winters promote new growth, and long, hot and very dry summer seasons sometimes occur. Occasionally, multi-year droughts cause significant parts of these plants to die back. All of these plants are adapted to intense wildfires necessary for species regeneration. However, when fire occurs at too frequent intervals, the coastal sage scrub plant community reverts to a more flammable, less desirable community of short-lived annual grasses with little wildlife value and poor ability to protect the soil. The on-site wildland fire threat from this native vegetation can be mitigated within the development with the required fuel modification and utilization of "*firewise*" landscaping criteria. In addition most if not all of the existing on site fuels will be cleared in the grading process.

In summary, any wind or topography driven wildfire burning under a northeast (*Santa Ana*) wind pattern creates a very high wildland fire hazard, especially for wildland fires starting northeast of the development. Also, a rare event 30 mph southwest wind will create a high wildland wildfire hazard. However, the proposed fuel modification treatments, "firewise" landscaping, and the use of "enhanced" fire resistive building construction standards, which includes the use of Class "A" roof and non-combustible fire resistive exterior wall materials, will mitigate the potential loss of structures to less than significant levels due to direct fire impingement, wind driven embers or radiant heat around the perimeter of the houses.

4.6 **Vegetative Fuel Assessment.** The minute-by-minute movement of a wildland fire will probably never be totally predictable–certainly not from weather conditions forecast many hours before the fire. Nevertheless, practice and experienced judgment in assessing the fire environment coupled with a systematic method of calculating fire behavior yields surprisingly good results (Rothermel 1983).

The BehavePlus Fire Modeling System has been used to predict the wildland fire behavior (rate-of-spread, fireline intensity and flame length) for the northeastern and southwestern boundary vegetative fuels. The BEHAVE: Fire Behavior Prediction and Fuel Modeling System–Burn Subsystem, Part 1 by Patricia L. Andrews, is one of the best systematic methods for predicting wildland fire behavior. The BEHAVE fire behavior computer modeling system was developed by USDA–Forest Service research scientists at the Intermountain Forest Fire Laboratory, Missoula, Montana, and is utilized by wildland fire experts nationwide. Since the model was designed to predict the spread of a fire, the fire model describes the fire behavior only within the flaming front. The primary driving force in the fire behavior calculations is the dead fuel less than one-fourth inch in diameter; these are the fine fuels that carry the fire. Fuels larger than three (3") inches in diameter are not included in the calculations at all (Andrews 1986)".

BehavePlus, Version 3.0.2, is an updated and enhanced form of the BEHAVE System. The BEHAVE fire model describes a wildfire spreading through surface fuels, which are the burnable materials within six (6') feet of the ground and contiguous to the ground. Regardless of the limitations expressed, experienced wildland fire managers can use the BEHAVE modeling system to project the expected fire intensity, rate-of-spread and flame lengths with a reasonable degree of certainty for use in fire protection planning purposes.

The ***FIREWISE*** **2000, Inc.** evaluation team used the computer based BEHAVE Plus 3.0.2 Fire Behavior Prediction Model to make the fire behavior assessments and projections for the hazardous vegetative fuels on the areas in proximity to the proposed residential building lots in the Maria Avenue project (See APPENDIX 'C' for actual calculations). The projections are based on scenarios that are "worst case" San Diego County fire assumptions.

Two (2) different fire scenarios are presented based on "worst case" fire weather assumptions for the project area, and one (1) fire scenario based on "typical" fire weather projections for comparison. Each fire scenario displays the expected Rate of Fire Spread (expressed in feet per minute), Fireline Intensity (expressed in British Thermal Units per foot per second) and Flame Length (expressed in feet) for two (2) separate BEHAVE Plus predications: one for the untreated fuels, and one for the treated fuels following the completion of the required fuel modification work. The tables also include the calculation inputs used in the BEHAVE Plus program which were obtained from project site observations and fuel levels typically observed during the local fire season.

Table 4.6.1 *Fire Scenario # 1 - East Boundary* *(Late Fire Season With 60 MPH Northeast And East Wind Conditions)*	
Fire Behavior Calculation Input Data · 15 percent slope · 60 mph 20-foot wind speed · 180° aspect from north · 45° wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of……..…2% * 10-Hour Fuel Moisture of……..……3% * 100-Hour Fuel Moisture of.....……..…….5% * Live Herbaceous Fuel Moisture of…….30% * Live Woody Fuel Moisture of…….....50%
Expected Fire Behavior Fuel Model SCAL 18 - Sage/Buckwheat	
Rate of Spread - 286.9 feet/minute	
Fireline Intensity - 20,838 BTU's/foot/second	
Flame Length - 43.6 feet in length	
Expected Fire Behavior in Treated Fuels Combined Fuel Model - [tl6 – Moderate Load Broadleaf Litter 50% and gr1 - Short, Sparse Dry Climate Grass 50%]	
Rate of Spread - 78.1 feet/minute	
Fireline Intensity - 936 BTU's/foot/second	
Flame Length - 10.5 feet in length	

Table 4.6.2 *Fire Scenario # 2 - South Boundary* *(Late Fire Season With Above Average 30 MPH South and Southwest Wind Conditions)*	
Fire Behavior Calculation Input Data · 15 percent slope · 30 mph 20-foot wind speed · 180° aspect from north · 225° wind direction from north	**Anticipated Fuel Moistures** * 1-Hour Fine Fuel Moisture of ……..…2% * 10-Hour Fuel Moisture of.....……..…….3% * 100-Hour Fuel Moisture of ……..……5% * Live Herbaceous Fuel Moisture of…….30% * Live Woody Fuel Moisture of…….....60%
Expected Fire Behavior Fuel Model SCAL 18 - Sage/Buckwheat	
Rate of Spread - 145 feet/minute	
Fireline Intensity - 10,507 BTU's/foot/second	
Flame Length - 31.8 feet in length	
Expected Fire Behavior in Treated Fuels Combined Fuel Model - [tl6 – Moderate Load Broadleaf Litter 50% and gr1 - Short, Sparse Dry Climate Grass 50%]	
Rate of Spread - 39.4 feet/minute	
Fireline Intensity - 340 BTU's/foot/second	
Flame Length - 6.6 feet in length	

Table 4.6.3 ***Fire Scenario # 3 - South Boundary*** ***(Typical 10 MPH South, West and Southwest Wind Conditions)***	
Fire Behavior Calculation Input Data · **15 percent slope** · **30 mph 20-foot wind speed** · **180° aspect from north** · **225° wind direction from north**	**Anticipated Fuel Moistures** *** 1-Hour Fine Fuel Moisture of ……..4%** *** 10-Hour Fuel Moisture of……..6%** *** 100-Hour Fuel Moisture of ……..8%** *** Live Herbaceous Fuel Moisture of…….50%** *** Live Woody Fuel Moisture of…….60%**
Expected Fire Behavior Fuel Model SCAL 18 - Sage/Buckwheat	
Rate of Spread - 43.7 feet/minute	
Fireline Intensity - 2,771 BTU's/foot/second	
Flame Length - 17.3 feet in length	
Expected Fire Behavior in Treated Fuels Combined Fuel Model - [tl6 – Moderate Load Broadleaf Litter 50% and gr1 - Short, Sparse Dry Climate Grass 50%]	
Rate of Spread - 15.7 feet/minute	
Fireline Intensity - 50 BTU's/foot/second	
Flame Length - 2.7 feet in length	

In summary, the tables above show the change in fire rate of spread, intensity and flame length for the two worst case scenarios following the completion of the required fuel modification as compared to pre-treatment fire behavior.

4.7 Required Fuel Modification Zones

Projects located in Hazardous Fire Areas shall include Fuel Management Zones (FMZ) surrounding all structures that are greater than 250 square feet in size. San Diego County Code stipulates that the FMZ is a minimum 100-foot area surrounding and extending in all directions from all structures, in which flammable vegetation or other combustible growth is cleared away or modified, **except for:**

- Single specimens of trees or other vegetation that are well-pruned and maintained.
- Grass and other vegetation located more than 50 feet from the structure and less than 18 inches in height above the ground.
- All ornamental landscaping that is consistent with County Wildland Interface plant list (See APPENDIX 'A').

Although San Diego County Code requires 100 feet of vegetation management, this is not achievable on the project due to the small lots, minimum setbacks from property lines, and the inability to treat the Caltrans right of way along the southern property boundary. The greatest exposure to wildland fuels is the southern boundary of Lots 6, 7, 8 and 31. A combination of fuel treatment, the building of an 8 foot non-combustible wall with an emergency irrigation system as outlined in Section 4.8 and additional construction features as outlined in Section 4.4, will provide the same practical effect of 100 feet of fuel treatment and protect the structures for the projected 31 foot flame lengths on the south. The set back of the structures from the street, irrigated landscaping, driveways, and La Presa Avenue will provide the same practical effect of 100 feet of fuel modification and protect the structures from the projected 43.6 foot flame lengths on the east side of the project.

Below are the detailed definitions and required treatments for the Fuel Modification Zones. There are two fuel modifcation zones required for the Maria Avenue subdivision: an irrigated zone surrounding all structures; and a thinning zone on the south side of Lots 6, 7, 8 & 31. This results in a total of 70 feet of fuel treatment on the south side for Lot 31 where the greatest threat from wildfire exists. In addition, an 8 foot non-combustible wall as measured from the ground up shall be built along the south property line of Lot 6, 7, and 8 to offset the reduction of fuel modification. The fuel modification zones and the requirements for the non-combustible wall and emergency irrigation system are described below.

All distances in this report are measured horizontally. These distances are depicted on the Fire Protection Plan Map included herein as Exhibit 'A'. Prior to construction on any building site, all roads (primary and secondary) for this development shall be accepted by the San Diego County Fire Marshal.

The responsibility for the fuel modification maintainence defined below shall remain with the current owners and any subsequent owners, and as such shall run with the land. In the event the project is repossessed or sold, the unit/agency holding title to the Maria Avenue property will be responsible for such maintenance. Fuel Modification Zones shall be the responsibility of the indivdual lot owners or the HOA as outlined below and shall be completed as directed by the San Miguel Fire Marshal. Should the HOA become ineffective or dissolve the indivdual property owners are responsible for the fuel modification zones that directly benefit their lots. The SMCFPD under Ordinance 2007-03 shall enforce all fuel modication requirements as outlined below.

4.7.1 Irrigated Zone 1 (Lot Owner Maintained) - *(Shown as Blue on the Fire Protection Plan Map)*

Defined

Irrigated Zone 1 comprises the first 50 feet around a structure (front, back and side yards) or up to the individual property line depending on the lot size and is commonly called the defensible space zone. It is an irrigated zone and shall be free of all combustible construction and materials. All combustible building materials shall be permanently restricted in this zone. No structures which include the house can be built within this zone. Combustible decks, fences, patio covers and gazebos will be prohibited in this zone. The homeowners of these lots are not restricted from having concrete patios, concrete walkways or a swimming pool within this zone, provided the lot is large enough. Refer to APPENDIX 'D' for photos and descriptions of non-combustible decks, patio covers, and railings.

Required Landscaping

Zone 1 will be cleared of all existing native vegetation and replanted with drought tolerant and irrigated fire resistant lawns, ground covers and shrubs. Landscaping shall be irrigated and primarily consists of fire resistant, maintained native or ornamental plantings usually less than 18 inches in height. However, this zone may contain occasional fire resistant trees and single well spaced ornamental shrubs up to 48 inches in height, intermixed with ground covers and lawn. Shrubs and ground covers may be located no closer than 5 feet from the structure provided these plants will not carry fire to the structure. Non-flammable concrete patios, driveways, swimming pools, walkways, boulders, rock, and gravel can be used to break up fuel continuity within Zone 1.

Plants in this zone need to be fire resistant and not include any pyrophytes that are high in oils and resins such as pines, eucalyptus, cedar, cypress or juniper species. Thick, succulent or leathery leaf species with high moisture content are the

most “fire resistant”. Refer to APPENDIX ‘A’ for County of San Diego’s desirable plant list and APPENDIX ‘B’ for Prohibited Plants for plant selection.

Trees must be planted so that when they reach maturity the tips of their branches are at least 10 feet away from any structure and must have a minimum of 6 feet of vertical separation from low growing irrigated vegetation beneath the canopy of the tree.

Required Maintenance

Zone 1 shall be maintained year round by the individual property owner(s) within their property boundary (lot lines) as required by this FPP or the San Miguel Fire Protection District. Shrubs and trees are to be maintained free of dead material. Trees will be maintained so that their crown cover will be more than ten (10) feet from any structure. All tree crowns will be separated by twenty (20) feet and maintained to keep a separation of 6 feet between the ground fuels (shrubs and ground covers) and the lower limbs. All trees must be maintained to the current ANSI A300 standards [*Tree, Shrub, and Other Woody Plant Maintenance —Standard Practices (Pruning)]* (see www.ansi.com).

4.7.2 Thinning Zone 2A (HOA Maintained)- *(Shown as Yellow on the Fire Protection Plan Map)*

Defined

Zone 2A begins at the outer edge of Zone 1 and extends to the southern property line on Lot 30. It is a non-irrigated thinning zone and includes all natural and manufactured slopes. Thinning zones are utilized to reduce the fuel load of a wildland area adjacent to urban developments thereby reducing the radiant and convective heat of wildland fires. The intent is to achieve and maintain an overall 50 percent reduction of the canopy cover spacing and a 50 percent reduction of the original fuel loading by reducing the fuel in each remaining shrub or tree without substantially decreasing the canopy cover or the removal of tree holding root systems. In addition, all dead and dying plant material is removed. Combustible construction (i.e., gazebos, trellises, shade covers, etc.) is not allowed in Zone 2.

Required Landscaping

All exotic and flammable native plants (See San Diego County Prohibited Plant List in APPENDIX ‘B’) shall be removed with the original canopy and fuel loading reduced to 50%.

Required Maintenance

- The HOA shall be responsible for maintaining Zone 2A until such time as Lot 30 is sold and built with an approved residential or other structure.
- The project owners must secure an agreement with the owner of Lot 30 to allow the HOA to annually perform fuel modification to reduce the fire hazard from vegetative fuels. A copy of the signed agreement is attached as APPENDIX ‘F’. Low growing plants and ground covers are to be maintained to a height of 18 inches or less.
- In the event the HOA becomes ineffective or dissolves, the property owner benefiting from the fuel treatment on the adjacent lot(s) shall be responsible for the continuing fuel treatment. Under Ordinance 2007-03, the SMCFPD has the authority to enforce fuel modications in these areas.
- Each tree will be limbed to maintain a separation of 6 feet between the ground fuels (shrubs and ground covers) and the lower limbs.
- Maintenance shall be completed by June 15th of each year with on-going maintenance throughout the year as needed with continuous removal and/or thinning

of undesirable, combustible vegetation to maintain 50% thinning, and limbing and shaping, of the retained fire resistant native plants (See APPENDIX 'A').

- Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they will be cut to 4 inches or less in height.
- Continuous removal of all dead and dying vegetation and highly flammable species (See APPENDIX 'B').

4.7.3 Offsite Thinning Zone 2B – HOA Maintained *(Shown as Orange on the Fire Protection Plan Map)*

Defined

Zone 2B is the area beginning at the southern property line of Lot 30 and extends south 35 feet to the southern boundary of Lot 29. Combined with Zone 1 and Zone 2A it provides a total of 70 feet of treated area for Lot 31. Zone 2B is a non-irrigated zone and requires the same treatment as Zone 2A but lies outside of the project boundary. The project owners must secure an agreement with the owner of the adjacent land (Lot 29) to allow the HOA to annually perform fuel modification on Lot 29 to reduce the fire hazard from vegetative fuels. A copy of the signed agreement is attached as APPENDIX 'F'. In the event this agreement cannot be secured, a non-combustible wall must be built as described below in Section 4.8. In the event the HOA becomes ineffective or dissolves, the property owner benefiting from the fuel treatment on the off-site areas shall be responsible for continuing the fuel treatment.

4.7.4 Streets and Roadways - Lot Owner Maintained *(Shown as Purple on the Fire Protection Plan Map)*

Required Maintenance

The property owners adjacent to Maria and La Presa Avenues shall clear all vegetative growth between their property boundary and the street along the east side of Maria Avenue and the west side of La Presa Avenue, and maintain this area annually to Zone 2 criteria or replant with approved plants and maintain to Zone 1 criteria.

Caltrans Maintained *(Shown as Brown on the Fire Protection Plan Map)*

Required Maintainance

Caltrans owns the land opposite Lots 29 – 33. The owners of these lots are not allowed access to this land; therefore it is Caltrans responsibility to comply with the SMCFPD Ordinance and San Diego County Ordinance 9915 to clear and maintain the vegetation for thirty (30) feet along the east side of La Presa Ave.

4.8 Non-Combustible Wall with Automatic Emergency Irrigation System – Individual Lot Owner Maintained (Shown as '_____' on the Fire Protection Plan Map)

Due to the inability to achieve 100 feet of fuel modification on the southern property line of Lot 6, 7and 8 an eight (8) foot non-combustible wall as measured from the ground up shall be built along the southern property line of Lot 6, 7 and 8 along the Caltrans right-of-way, and along the eastern property line of Lot 6, 7 and 8. The top half (4 feet) of said wall may be a view wall where tempered glass is utilized as long as the wall remains solid and noncombustible. Except where tempered glass is utilized the wall shall be constructed of slump stone or CMU in earth tones. In the event that an off-site agreement to treat the off-site fuels on Lot 29, adjacent to the southern property line of Lot 30, is not secured, the non-combustible wall shall be extended from Lot 6, 7 and 8 along the southern property line of Lot 30 to La Presa Avenue.

An automatic emergency irrigation system shall be placed on top of the wall along its entire length with both long and short spray heads. The location of the water sprinkler

heads shall be placed so their spray patterns overlap and provide uninterrupted coverage of the open space natural vegetation out to 50 feet from the wall. Each lot owner shall be responsible for the maintenance of the automatic emergency irrigation system on their respective walls.

The purpose of the automatic emergency irrigation system is to extinguish the fire prior to its approach to the house, reduce flame length and fire intensity by wetting the wildland fuels during light winds and to create a water-curtain effect during high winds between the wildland fuels and the structure. Although an emergency irrigation system is not accepted by San Diego County and the local Fire Marshal as mitigation for the lack of 100 feet of fuel modification, ***FIREWISE* 2000, Inc**. strongly believes that the addition of the emergency irrigation system will reduce the threat to the structures from radiant heat and embers.

1. The sprinklers shall be capable of being both automatic and manually activated prior to the arrival of a wildfire for the purpose of reducing fire intensity and flame lengths should a fire occur. A minimum of three fuseable links installed not more than 40 feet apart or a Pneumatic Linear Detection or similar heat activation sensors shall be located along the upper portion of the wall facing the wildland vegetation.
2. A combination of 50 percent spray and 50 percent rotary heads shall be directed towards the wildland fuels. The system shall be designed and installed so that all the wildland fuels will be simultaneously watered (sprayed) from the wall for a minimum distance of 25 feet followed by a rotary spray head capable of reaching 50 feet from the wall. A minimum of 20 GPM shall be applied to the vegetation outward from the wall which is approximately the rate at which most wildland engines apply water from a single hose stream.
3. The system shall be tested twice yearly by the lot owner (preferably in the spring and prior to the onset of Santa Ana winds-usually around September 1) for a period not to exceed two minutes to ensure that all spray heads are functional and that adequate water pressure is available. A report/letter shall be kept on file indicating the date of the test and that the system is in proper working order.
4. Irrigation during an emergency is exempt from the California Environmental Quality Act. Similar systems have been developed and installed throughout southern California to mitigate for the lack of space for fuel treatment as watering the vegatation is essentially the same practice that firefighters do in the advance of a wildfire by wetting down the adjacent vegetation to reduce flame lengths and fire intensity when water is readily available.
5. In addition the main line and water meter serving the residence must be capable of sustaining the domestic water supply, the emergency exterior irrigation sprinkler system and the interior fire sprinklers of the house at the same time.

4.9 Cumulative Impact Analysis

The combination of San Diego County's weather, fuel, and terrain has often contributed to intense, uncontrolled wildland fires. This was clearly evident in the devastating Cedar, Paradise and Otay Fires of October 2003, and the most recent Harris Fire of October 2007 and the Witch Creek Fire of November 2007.

Typically, the areas of greatest concern are adjacent to urbanized areas or where residences are intermixed with wildlands. As the population of San Diego County increases and the Wildland Urban Interface (WUI) expands, fire hazards and risks will continue to be encountered. Increased vehicular access for this residential subdivision by way of improving two existing roads and extending them will increase human activities in the immediate area and therefore increase the risk of property loss, injury or death within the wildland interface.

The approval of this proposal, the already approved developments in the area, dedicated open space, and future development proposals will increase the concern of wildland wildfire as the area becomes more urbanized.

5.0 - MITIGATION MEASURES AND DESIGN CONSIDERATIONS

- All newly constructed structures will be built to "enhanced" building requirements (See APPENDIX 'E') which includes the installation of automatic fire sprinkler systems (NFPA Standard 13D), including residential attics and garages. Additional construction features are required for Lots 6, 7, 8 and 31 which include automatic door closers on all exterior doors and extending interior fire sprinklers to the eaves on the south and east sides of the structures on these lots.

- There are two fuel modifcation zones required for the Maria Avenue subdivision: an irrigated zone surrounding all structures; and a thinning zone on the south side of Lots 6, 7, 8 and 31.

- An eight (8) foot non-combustible wall shall be built along the southern property line of Lots 6, 7, and 8 and extend east along the southern property boundary to Lot 30 and thence north along the eastern property boundary with Lot 30. If an off-site agreement to treat Lot 29 adjacent to Lot 30 on the south cannot be secured, the wall shall be extended east along the southern property boundary line of Lot 30 to La Presa Avenue. The wall shall be constructed of slump stone or CMU and consist of earth tone colors to mitigate visual impacts.

- An automatic emergency irrigation system shall be installed on top of the non-combustible wall capable of watering the vegetation out 50 feet from the wall.

- This report and its recommendations shall be incorporated by reference into the final project Conditions of Approval to ensure compliance with codes/regulations and significance standards. This plan also sets forth a requirement to manage and control invasive (exotics) in open space easements.

5.1 Requirements for Inclusion in the CC&R's:

1. Each lot owner is personally responsible for all fuel treatment measures within their property lots. Where these zones extend onto an adjoining lot within the development, the lot owner benefiting from the fuel treatment or the Home Owners Association (HOA) shall be allowed to perform the work on the adjacent property. In the event the HOA becomes ineffective or dissolves, the property owner benefiting from fuel treatment on adjacent or off-site areas shall be responsible for the continuing fuel treatment.

2. All property owners will be members of the HOA and will financially support the annual maintenance of all required Fuel Modification Areas within the common areas of the subdivision including adjacent undeveloped lots and off-site areas, and required road maintenance.

3. All roadside fuel treatments for the areas fronting the individual lots within the subdivision is the maintenance responsibility of the individual lot owners.

4. The HOA Board will have the authority for enforcing required fuel treatment measures on all lots and restrictions regarding combustible structures in all restricted areas

5. **TRASH DUMPING OR DISPOSAL OF YARD TRIMMINGS IN THE FUEL TREATMENT ZONES SHALL NOT BE ALLOWED.**

6. The Fuel Treatment Zones, as depicted on the Fire Protection Plan Map, shall be shown on the CC&R's and recorded against all lots. The HOA will be responsible for enforcing all required fuel modification treatments on all lots.

7. A HOA Board will be responsible to the San Miguel Consolidated Fire Protection District for the completion of all required Fuel Modification Treatments in perpetuity prior to June 15th of each year or when the vegetative fuels cure. This includes the perpetual management of invasives (exotics) in any zone within this development.

8. All individual yard landscaping plans, including additional structures, shall be approved by the HOA Board and will comply with the Fire Protection Plan. Any disputes relating to HOA Board approval of individual yard landscaping, with regard to interpretation of the Fire Protection Plan, will be decided by the San Miguel Consolidated Fire Protection District. The San Miguel Fire Marshal's decision will be final and binding on the landowner.

9. Trees shall be placed and maintained so that their crown cover at maturity will be more than ten (10) feet from any structure.

10. All plants will be in accordance with the San Diego County recommended plant list (See APPENDIX 'A'), or as approved by the San Miguel Consolidated Fire Protection District.

11. Upon the sale of a lot to a new owner, a copy of the Fire Protection Plan shall be provided as a condition of the sale.

12. The San Miguel Consolidated Fire Protection District (SMCFPD) will be designated as a third party beneficiary of a homeowners' association's duty to perform "Fire Prevention Maintenance" (as defined below) for all portions of the Association Property (or Common Area) that constitute Fuel Modification Zones and designated interior/manufactured slopes to be maintained by the homeowners' association, and of any owner's duty to comply with any Fuel Modification Zone restrictions applicable to their lot. Additionally, the SMCFPD shall have the right, but not the obligation, to enforce the homeowners' association's duty to perform such Fire Prevention Maintenance, and to enforce compliance by any owner with any Fuel Modification Zone restrictions applicable to their lot. In furtherance of such right, the SMCFPD shall be entitled to recover its costs of suit, including its actual attorneys' fees, if it prevails in an enforcement action against a homeowners' association and/or an individual lot owner.

13. As used herein, "Fire Prevention Maintenance" shall mean the following: All portions of the Association Property (or Common Area) that constitute Fuel Modification Zones or designated interior/manufactured slopes shall be regularly maintained by the homeowners association on a year round basis in accordance with the Fuel Modification Plan on file with the property manager for the development.

5.2 FIRE PROTECTION PLAN MAP

A pocket folder containing Exhibit 1 - FIRE PROTECTION PLAN MAP can be found following this FPP depicting the location of all proposed fuel modification treatment locations and other mitigation measures for Maria Avenue.

6.0 - CONCLUSIONS

This FPP evaluated the adverse environmental effects that a proposed residential development may have from wildland fire and to properly mitigate those impacts to ensure that this development does not unnecessarily expose people or structures to a significant risk of loss, injury or death involving wildland fires.

- The requirements of this FPP provide the fuel modification standards to mitigate the exposure of people or structures to a significant risk of loss, injury or death. Zone 1 is the level building pad and provides the defensible space zone for fire suppression forces and will protect structures from radiant and convective heat. This zone will also be a landscaped zone that is permanently irrigated and consists of fire resistant and maintained plantings. Zone 2 is adjacent to Zone 1 and includes all manufactured slopes and provides removal of 50 percent of the native vegetation at a minimum, including all prohibited highly combustible native vegetation, but permits plantings with very specific criteria.

- The development will have adequate emergency access in terms of access and construction standards for roadways and streets. The San Miguel Consolidated Fire Protection District, CAL FIRE and nearby fire departments through mutual aid, will provide fire protection. Response times and the proximity of the development to the Wildland Urban Interface (WUI), and a subdivision in a very high fire hazard severity zone require fire sprinklers in all residences. This will add to the mitigation of shorter fuel modification zones.

- Water supplies via pipelines, storage tanks, and related requirements will provide adequate water for fire protection.

7.0 - LIST OF PREPARERS, PERSONS AND ORGANIZATIONS CONTACTED

7.1 List of Preparers

The principal author and preparer of this Fire Protection Plan is David C. Bacon, President of ***FIREWISE 2000, Inc.***, a San Diego County DPLU certified wildland fire consultant. Other ***FIREWISE 2000, Inc.*** members contributed to this plan with comments and peer review. These members include Mel Johnson, Wildland Fire Associate and Herb Spitzer, Senior Wildland Fire Associate.

7.2 List of Persons Contacted During the Course of this Project

1. Jerry Gaughan, Dictionary Hill Developers
2. Ken Stock, Dictionary Hill Developers
3. Marsha Larson, Fire Marshal-San Miguel Consolidated Fire Protection District
4. Tony Morgan, Fire Inspector -San Miguel Consolidated Fire Protection District

8.0 - REFERENCES

1. *BEHAVE: Fire Behavior Prediction and Fuel Modeling System - BURN Subsystem, Part 1.* General Technical Report INT-194. January 1986. Patricia L. Andrews, United States Department of Agriculture - Forest Service, Intermountain Station, Ogden, Utah 84401.

2. *BEHAVE: Fire Behavior Prediction and Fuel Modeling System - BURN Subsystem, Part 2.* General Technical Report INT-260. May 1989. Patricia L. Andrews and Carolyn H. Chase, United States Department of Agriculture - Forest Service, Intermountain Station, Ogden, Utah 84401.

3. *BehavePlus Fire Modeling System, Version 3.0.1* General Technical Report RMRS-GRT-106WWW Revised. June 2005. Patricia L. Andrews, Collin D. Bevins and Robert C. Seli. United States Department of Agriculture - Forest Service, Rocky Mountain Research Station, Missoula , Montana.

4. County of San Diego Ordinance No. 9915 – *An Ordinance Amending Appendix II-A of the County Fire Code Relating to Wildland/Urban Interface Standards*.

5. *How to Predict the Spread and Intensity of Forest and Range Fires*. General Technical Report INT-143. June 1983. Richard C. Rothermel. United States Department of Agriculture - Forest Service, Intermountain Station, Ogden, Utah 84401.

6. National Fire Protection Association - NFPA 1144 *Standard for Protection of Life and Property from Wildfire* (2002)

7. National Fire Protection Association - *NFPA 13 Standard for the Installation of Sprinkler Systems in One – and Two-Family Dwellings and Manufactured Homes, 13-R & 13-D, 2002 Editions*

8. *Wildland/Urban Interface Development Standards.* San Diego County Fire Chief's Association, originally Developed by Orange County Wildland/Urban Interface Task Force Subcommittee on Open Space Management, July, 1994, Modified by the San Diego County Wildland/Urban Interface Task Force, November, 1995, Revised August, 1997.

9. *Guidance Document Ignition Resistant Eave Construction*. County of San Diego, Department of Planning and Land Use Building Division, DPLU # 198 (3-21-2005).

10. California Code of Regulations, Title 14, section 1280; California Public Resources Codes sections 4201 through 4204 & International Urban – Wildland Interface Code, 2003, 2003 edition,

11. California Government Code, sections 51175 through 51189; the 2007 Fire Code portion of the CBSC, including appendices to Chapters 1 & 4 and Appendices B, F & H, the 2006 International Fire Code (IFC)

12. *County of San Diego Consolidated Fire Code, July 2007.*

13. *County of San Diego. Fire Prevention Measures to Provide Defensible Space in the Unincorporated Area of the County. Board of Supervisors, Land Use Agenda Item May 15, 2002.*

14. *County of San Diego. Fire, Defensible Space and You, August 1998*

15. *County of San Diego. Plant List and Acceptable Plants for a Defensible Space in Fire Prone Areas. Department of Planning and Land Use, December, 1998.*

16. *County of San Diego. Guidelines for Determining Significance and Report Format and Content Requirements Wildland Fire and Fire Protection Land Use and Environment Group Department of Planning and Land Use, Department of Public Works, March 19, 2007*

17. *Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model,* General Technical Report. RMRS-GTR 153, June 2005 United States Department of Agriculture - Forest Service

18. *2007 California Fire Code-revised January, 2008*

19. *The Local Amendments to the 2007 California Fire Code; Chapter 7A-California Building Code*

20. *The California State and Local Responsibility Area Fire Hazard Severity Zone Map – Fire and Resource Assessment Program of CALFIRE*

21. San Miguel Consolidated Fire Protection District Ordinance 2007-03

NE Wind 60 MPH
Fuel Model SCAL18
Flame Length 43.6 Feet

30'

NEW MASONRY RETAINING WALL

LA PRESA AVE.

95'

SAN CARLOS STREET

N 88°36'16"W 270.26'

EXISTING HOUSE

LOT 34, BLOCK 49
MAP NO. 441
APN: 584-200-66

S 88°36'16"E

EXISTING HOUSE

LOT 1, BLOCK 49
MAP NO. 441
APN: 584-200-70

N 88°37'38"W 100.12'

PROPOSED SINGLE FAMILY RESIDENCE

16' DRIVEWAY

LOT 33, BLOCK 49
MAP NO. 441
APN: 584-200-78

LOT 32, BLOCK 49
MAP NO. 441
APN: 584-200-77

LOT 31, BLOCK 49
MAP NO. 441
APN: 584-200-76

LOT 30, BLOCK 49
MAP NO. 441
APN: 584-200-75

LOT 29, BLOCK 49
MAP NO. 441
APN: 584-200-74

NO STRUCTURE PROPOSED ON THIS LOT

N 88°42'06"W 100.09'

75'

N 01°14'00"E 34.94'

N 01°13'15"E 34.98'

N 01°12'32"E 35.01'

N 01°13'15"E 88.47'

CALTRANS R/W LINE

CALTRANS RIGHT OF WAY

28

27

LOT 2, BLOCK 49
MAP NO. 441
APN: 584-200-72

LOT 3, BLOCK 49
MAP NO. 441
APN: 584-200-71

LOT 4, BLOCK 49
MAP NO. 441
APN: 584-200-68

LOT 5, BLOCK 49
MAP NO. 441
APN: 584-200-67

LOT 6, BLOCK 49
MAP NO. 441
APN: 584-200-73

LOT 7 & 8, BLOCK 49
MAP NO. 441
APN: 584-200-74

LOT 8 BLOCK 49
MAP NO. 441

SEE CERTIFICATE OF COMPLIANCE NO. 07-0035 PER DOC. 2007-0532783, REC. 8-09-07

40.0'

28.8'

26.2'

84.28'

N 01°12'32"E

NEW MASONRY SCREEN WALL FOR FIRE PROTECTION

N75°06'25"E 58.30'

SW Wind 30 MPH
Fuel Model SCAL18
Flame Length 31.8 Feet

MARIA AVENUE

N 01°13'32"E 139.55'

N 01°12'32"E 175.85'

(318.79) TC

(317.02) TC

(316.27) TC

(315.59) TC

314.79 TC

CALTRANS R/W LINE

AVENIDA ACERO

20 0 20 40
Scale: 1" = 20'

SCALE 1" = 20'

N

RAMONA AVENUE
SAN DIEGO STREET
SAN DIEGO STREET
SAN CARLOS STREET
MARIA AVENUE
LA PRESA AVE.
PROJECT SITE

VICINITY MAP
NO SCALE
THOMAS BROS. PAGE 1291, C-4

FIRE PROTECTION PLAN MAP LEGEND
Maria Avenue
Spring Valley, California

Symbol	Description
	IRRIGATED ZONE 1 (OWNER MAINTAINED) - The area within 50 feet of the house or up to the property line depending on the lot size maintained to Irrigated Zone 1 criteria. Only plants from the approved San Diego County plant list are to be installed. All combustible building materials including combustible decks, patio covers and gazebos will be prohibited in this zone. See Fire Protection Plan for details.
	THINNING ZONE 2A (OWNER MAINTAINED) - Zone 2A begins at the outer edge of Zone 1 and extends to the southern property line on Lot 30. It is a non-irrigated thinning zone and includes all natural and manufactured slopes. All exotic and flammable native plants shall be removed with the original canopy and fuel loading reduced to 50%. Maintenance will be on-going throughout the year as needed with continuous removal and/or thinning of undesirable combustible vegetation to maintain 50% thinning, and limbing and shaping, of the retained fire resistant native plants. Native annual and perennial grasses will be allowed to grow and produce seed during the winter and spring. As grasses begin to cure (dry out), they will be cut to 4 inches or less in height. See Fire Protection Plan for details.
	OFF-SITE THINNING ZONE 2B (OWNER MAINTAINED) - The area beginning at the southern property line of Lot 30 and extending south 35 feet off-site that meets Zone 2A criteria. See Fire Protection Plan for details.
	STREETS (LOT OWNER MAINTAINED) - The area between the street and the property boundary along the east side of Maria Avenue and the west side of La Presa Avenue shall be cleared of vegetative growth and maintained to Zone 2 criteria or replanted and maintained to Zone 1 criteria.
	STREETS (CAL-TRANS MAINTAINED) - Thirty (30) feet along the east side of La Presa Avenue cleared of vegetative growth and maintained to Zone 2 criteria.
	NON-COMBUSTIBLE WALL WITH EMERGENCY IRRIGATION - A non-combustible wall 8 feet in height located on the southern and eastern property boundaries of Lot 6/7/8. An emergency water irrigation system shall be installed on top of the wall (automatically operated) so that approximately 50 feet of the vegetation is treated with water when an eminent fire hazard is identified or during a fire event. See Fire Protection Plan for details.

Prepared for: Dictionary Hills Developers LLC
3940 Hortensia St
San Diego, CA 92110

Prepared By: *FIREWISE 2000*, Inc.
26337 Sky Drive
Escondido, CA 92026
Telephone: 760-745-3947

Certified By

David C. Bacon, President Date

FIREWISE 2000, Inc.
26337 Sky Drive
Escondido, CA 92026
Telephone: 760-745-3947

LEGAL DESCRIPTION
ALL OF LOTS 2, 3, 4, 5, 30, 31, 32, 33, AND A PORTIONS OF LOTS 6, 7, AND 8 IN BLOCK 49 IN THE COLONY OF LA PRESA, MAP NO. 441 FILED NOVEMBER 23, 1887, ALL IN THE COUNTY OF SAN DIEGO, STATE OF CALIFORNIA.
ANP: 584-200-66,-67,-71,-72,-73,-74,-75,-76,-77,-78

APPLICANT
DICTIONARY HILLS DEVELOPERS L.L.C.
3936 HORTENSIA STREET
SAN DIEGO, CA 92110

TEL: 619-523-0133

ENGINEER OF WORK
AQUATERRA ENGINEERING INC.
ADDRESS: 1843 CAMPESINO PLACE
OCEANSIDE, CA 92054
TELE: (760) 439-2802

_____ DATE _____
GARY LIPSKA RCE 23080 EXPIRES 12/31/09

Aquaterra Engineering Inc.
CIVIL ENGINEERING * LAND PLANNING
1843 Campesino Place
Oceanside, CA 92054
Tele: (760) 439-2802
Fax: (760) 439-2866

DRAWN BY: LIPSKA	APPROVED BY:	REVISIONS	PROJECT	SHT. NAME	SHT. NO.	
DATE: 4/18/06	PROJ. NO.		SAN CARLOS PROJECT- SPRING VALLEY	PLOT PLAN EXHIBIT CASE NO. R-08-007	1 of 1	
DWG. NO.:	DWG.					

PLOT DATE: 8-18-08

APPENDIX 'A'

COUNTY OF SAN DIEGO

ACCEPTABLE PLANTS FOR DEFENSIBLE SPACE IN FIRE PRONE AREAS

ALL NATIVE PLANTS ON THE FOLLOWING LIST are considered to be drought-tolerant in the particular climate zone they are found. Those that grow best in riparian areas, as indicated by the "R", are generally the least drought-tolerant plants on the list.

SPECIAL NOTE: When planting, it is necessary to water deeply to encourage the plant roots to seek natural moisture in the soil. This watering should continue for at least three years to allow the plants to naturalize. More water should be provided in summer and less (if any) in the winter. These plants should be weaned off the supplemental irrigation and become less dependent on it over the establishment period.

No plant is totally fire resistant. The plants listed were chosen to due to their high water content, minimum amount of flammable resins and/or low fuel volume.

Definitions:

Defensible Space: The area around a structure, where material capable of causing fire has been cleared, reduced or changed, to act as a barrier between an advancing fire and the structure.

Drought-Tolerant Plant Materials: Trees, shrubs, groundcovers, and other vegetation capable of sustained growth and reproduction with only natural moisture. Occasional supplemental irrigation is necessary only in extreme drought situations.

Establishment Period: The time it takes for a plant to become drought-resistant. This is usually a period of three years and is the time when supplemental irrigation is necessary.

Native or Naturalizing Plant Species: Plant species native to the region or introduced which, once established, are capable of sustaining growth and reproduction under local climatic conditions without supplemental irrigation.

***FIRE WISE* 2000, Inc. Note:** The plant list which follows was developed using the plants found on the San Diego County approved plant list. This list was then compared to those plants which are suitable for the climatic zone in which the project is located. Only those plants suitable for the project area listed below. The list is therefore shorter than that provided by the County. By providing this custom list, plants that are likely to be killed or seriously damaged by frost or will not perform in hot dry conditions have been eliminated. ***FIRE WISE* 2000, Inc.** believes that the planting of species suited to the site is essential to fire management goals and is a environmentally sound practice.

San Diego County
Customized Acceptable Plant List
For The Maria Avenue Development

No.	Type	Genus	Species	Common Name
1	Annual	Lupinus spp.	nanus	Lupine
2	Groundcover	Achillea	millefolium	Yarrow
3	Groundcover	Aptenia	cordifolia	Aptenia
4	Groundcover	Arctostaphylos spp.		Manzanita
5	Groundcover	Cerastium	tomentosum	Snow-in-Summer
6	Groundcover	Coprosma	kirkii	Creeping Coprosma
7	Groundcover	Cotoneaster spp.		Redberry
8	Groundcover	Drosanthemum	hispidum	Rosea Ice Plant
9	Groundcover	Dudleya	brittonii	Britton's Chalk Dudleya
10	Groundcover	Dudleya	pulverulenta	Chalk Dudleya
11	Groundcover	Dudleya	virens	Island Live-Forever
12	Groundcover	Eschscholzia	californica	California Poppy
13	Groundcover	Ferocactus	viridescens	Coast Barrel Cactus
14	Groundcover	Gaillardia	grandiflora	Blanket Flower
15	Groundcover	Gazania spp.		Gazania
16	Groundcover	Helianthemum spp.		Sunrose
17	Groundcover	Lantana spp.		Lantana
18	Groundcover	Lasthenia	californica	Common Goldfields
19	Groundcover	Lasthenia	glabrata	Coastal Goldfields
20	Groundcover	Lupinus spp.		Lupine
21	Groundcover	Myoporum spp.		Myoporum
22	Groundcover	Pyracantha spp.		Firethorn
23	Groundcover	Rosmarinus	officinalis	Rosemary
24	Groundcover	Santolina	chamaecyparissus	Lavender Cotton
25	Groundcover	Santolina	virens	Santolina
26	Groundcover	Trifolium	frageriferum	O'Connor's Legume
27	Groundcover	Verbena	rigida	Verbena
28	Groundcover	Viguiera	laciniata	San Diego Sunflower
29	Groundcover	Vinca	major	Periwinkle
30	Groundcover	Vinca	minor	Dwarf Periwinkle
31	Perennial	Coreopsis	gigantea	Giant Coreopsis
32	Perennial	Coreopsis	grandiflora	Coreopsis
33	Perennial	Coreopsis	maritima	Sea Dahlia
34	Perennial	Coreopsis	verticillata	Coreopsis

No.	Type	Genus	Species	Common Name
35	Perennial	Heuchera	maxima	Island Coral Bells
36	Perennial	Iris	douglasiana	Douglas Iris
37	Perennial	Iva	hayesiana	Poverty Weed
38	Perennial	Kniphofia	uvaria	Red-Hot Poker
39	Perennial	Lavandula spp.		Lavender
40	Perennial	Limonium	californicum perezii	Coastal Statice
41	Perennial	Limonium	californicum var. mexicanum	Coastal Statice
42	Perennial	Oenothera spp.		Primrose
43	Perennial	Penstemon spp.		Penstemon
44	Perennial	Satureja	douglasii	Yerba Buena
45	Perennial	Sisyrinchium	bellum	Blue-Eyed Grass
46	Perennial	Sisyrinchium	californicum	Golden-Eyed Grass
47	Perennial	Solanum	xantii	Purple Nightshade
48	Perennial	Zauschneria	'Catalina' ?	Catalina Fuschia
49	Perennial	Zauschneria	californica	California Fuschia
50	Perennial	Zauschneria	cana	Hoary California Fuschia
51	Shrub	Agave	americana	Desert Century Plant
52	Shrub	Agave	Amorpha fruticosa	False Indigobush
53	Shrub	Agave	deserti	Shaw's Century Plant
54	Shrub	Agave	shawii	NCN
55	Shrub	Agave		Century Plant
56	Shrub	Arctostaphylos spp.		Manzanita
57	Shrub	Atriplex	canescens	Hoary Saltbush
58	Shrub	Baccharis	pilularis	Coyote Bush
59	Shrub	Baccharis	salicifolia	Mule Fat "R"
60	Shrub	Carissa	macrocarpa	Natal Plum
61	Shrub	Ceanothus spp.		California Lilac
62	Shrub	Cistus spp.		Rockrose
63	Shrub	Cneoridium	dumosum	Bush rue
64	Shrub	Comarostaphylis	diversifolia	Summer Holly
65	Shrub	Convolvulus	cneorum	Bush Morning Glory
66	Shrub	Dalea	attenuata v orcuttii	Orcutt's Delea
67	Shrub	Elaeagnus	pungens	Silverberry
68	Shrub	Encelia	californica	Coast Sunflower
69	Shrub	Encelia	farinosa	White Brittlebush
70	Shrub	Eriobotrya	deflexa	Bronze Loquat
71	Shrub	Eriophyllum	confertiflorum	Golden Yarrow
72	Shrub	Eriophyllum	staechadifolium	Lizard Tail
73	Shrub	Escallonia spp.		Escallonia
74	Shrub	Feijoa	sellowiana	Pineapple Guava
75	Shrub	Fremontodendron	californicum	Flannelbush
76	Shrub	Fremontodendron	mexicanum	Southern Flannelbush
77	Shrub	Galvezia	juncea	Baja Bush-Snapdragon
78	Shrub	Galvezia	speciosa	Island Bush-Snapdragon
79	Shrub	Garrya	elliptica	Coast Silktassel
80	Shrub	Garrya	flavescens	Ashy Silktassel
81	Shrub	Heteromeles	arbutifolia	Toyon
82	Shrub	Lantana spp.		Lantana
83	Shrub	Lotus	scoparius	Deerweed
84	Shrub	Mahonia spp.		Barberry

No.	Type	Genus	Species	Common Name
85	Shrub	Malacothamnus	clementinus	San Clemente Island Bush Mallow
86	Shrub	Malacothamnus	fasciculatus	Mesa Bushmallow
87	Shrub	Melaleuca spp.		Melaleuca
88	Shrub	Mimulus spp.		Monkeyflower
89	Shrub	Nolina	parryi	Parry's Nolina
90	Shrub	Photinia spp.		Photinia
91	Shrub	Pittosporum	crassifolium	NCN
92	Shrub	Pittosporum	rhombifolium	Queensland Pittosporum
93	Shrub	Pittosporum	tobira 'Wheeleri'	Wheeler's Dwarf
94	Shrub	Pittosporum	undulatum	Victorian Box
95	Shrub	Pittosporum	viridiflorum	Cape Pittosporum
96	Shrub	Plumbago	auriculata	Cape Plumbago
97	Shrub	Prunus	caroliniana	Carolina Laurel Cherry
98	Shrub	Prunus	ilicifolia	Hollyleaf Cherry
99	Shrub	Prunus	lyonii	Catalina Cherry
100	Shrub	Puncia	granatum	Pomegranate
101	Shrub	Pyracantha spp.		Firethorn
102	Shrub	Quercus	dumosa	Scrub Oak
103	Shrub	Rhamus	alaternus	Italian Buckthorn
104	Shrub	Rhamus	californica	Coffeeberry
105	Shrub	Rhaphiolepis spp.		Rhaphiolepis
106	Shrub	Rhus	continus	Smoke Tree
107	Shrub	Rhus	integrifolia	Lemonade Berry
108	Shrub	Rhus	laurina	Laurel Sumac
109	Shrub	Rhus	ovata	Sugarbush
110	Shrub	Romneya	coulteri	Matilija Poppy
111	Shrub	Rosa	californica	California Wild Rose
112	Shrub	Rosa	minutifolia	Baja California Wild Rose
113	Shrub	Salvia spp.		Sage
114	Shrub	Sambucus spp.		Elderberry
115	Shrub	Symphoricarpos	mollis	Creeping Snowberry
116	Shrub	Tecomaria	capensis	Cape Honeysuckle
117	Shrub	Teucrium	fruticans	Bush Germander
118	Shrub	Verbena	lilacina	Lilac Verbena
119	Shrub	Xylosma	congestum	Shiny Xylosma
120	Shrub	Yucca	schidigera	Mojave Yucca
121	Shrub	Yucca	whipplei	Foothill Yucca
122	Tree	Acer	macrophyllum	Big Leaf Maple
123	Tree	Acer	saccharinum	Silver Maple
124	Tree	Arbutus	unedo	Strawberry Tree
125	Tree	Archontophoenix	cunninghamiana	King Palm
126	Tree	Brahea	armata	Blue Mexican Palm
127	Tree	Brahea	edulis	Guadalupe Palm
128	Tree	Ceratonia	siliqua	Carob
129	Tree	Cercis	occidentalis	Western Redbud
130	Tree	Eriobotrya	japonica	Loquat
131	Tree	Erythrina	caffra	Kaffirboom Coral Tree
132	Tree	Gingko	biloba "Fairmount"	Fairmount Maidenhair Tree
133	Tree	Juglans	californica	California Walnut
134	Tree	Ligustrum	lucidum	Glossy Privet

No.	Type	Genus	Species	Common Name
135	Tree	Liquidambar	styraciflua	Sweet Gum
136	Tree	Liriodendron	tulipifera	Tulip Tree
137	Tree	Lyonothamnus	floribundus ssp. Asplenifolius	Fernleaf Catalina Ironwood
138	Tree	Melaleuca spp.		Melaleuca
139	Tree	Myoporum spp.		Myoporum
140	Tree	Nerium	oleander	Oleander
141	Tree	Parkinsonia	aculeata	Mexican Palo Verde
142	Tree	Pistacia	chinensis	Chinese Pistache
143	Tree	Pittosporum	phillyreoides	Willow Pittosporum
144	Tree	Pittosporum	viridiflorum	Cape Pittosporum
145	Tree	Platanus	acerifolia	London Plane Tree
146	Tree	Platanus	racemosa	California Sycamore "R"
147	Tree	Populus	trichocarpa	Black Cottonwood "R"
148	Tree	Prunus	caroliniana	Carolina Laurel Cherry
149	Tree	Prunus	ilicifolia	Hollyleaf Cherry
150	Tree	Prunus	lyonii	Catalina Cherry
151	Tree	Quercus	agrifolia	Coast Live Oak
152	Tree	Quercus	engelmannii	Engelmann Oak
153	Tree	Quercus	suber	Cork Oak
154	Tree	Rhus	lancea	African Sumac
155	Tree	Salix spp.		Willow "R"
156	Tree	Tristania	conferta	Brisbane Box
157	Tree	Ulmus	parvifolia	Chinese Elm
158	Tree	Umbellularia	californica	California Bay Laurel "R"
159	Vine	Antigonon	leptopus	San Miguel Coral Vine
160	Vine	Distictis	buccinatoria	Blood-Red Trumpet Vine
161	Vine	Keckiella	cordifolia	Heart-Leaved Penstemon
162	Vine	Lonicera	japonica ‘Halliana’	Hall’s Honeysuckle
163	Vine	Lonicera	subspicata	Chaparral Honeysuckle
164	Vine	Solanum	jasminoides	Potato Vine

APPENDIX 'B'

UNDESIRABLE PLANT LIST

The following species are highly flammable and should be avoided when planting within the first 50 feet adjacent to a structure. The plants listed below are more susceptible to burning, due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding), may remain as long as the potential for spreading a fire has been reduced or eliminated.

BOTANICAL NAME	COMMON NAME
Abies species	Fir Trees
Acacia species	Acacia (trees, shrubs, groundcovers)
Adenostoma sparsifolium**	Red Shanks
Adenostoma fasciculatum**	Chamise
Agonis juniperina	Juniper Myrtle
Araucaria species	Monkey Puzzle, Norfolk Island Pine
Artemesia californica**	California Sagebrush
Bambusa species	Bamboo
Cedrus species	Cedar
Chamaecyparis species	False Cypress
Coprosma pumila	Prostrate Coprosma
Cryptomeria japonica	Japanese Cryptomeria
Cupressocyparis leylandii	Leylandii Cypress
Cupressus forbesii**	Tecate Cypress
Cupressus glabra	Arizona Cypress
Cupressus sempervirens	Italian Cypress
Dodonea viscosa	Hopseed Bush
Eriogonum fasciculatum**	Common Buckwheat
Eucalyptus species	Eucalyptus
Heterotheca grandiflora**	Telegraph Plant
Juniperus species	Junipers
Larix species	Larch
Lonicera japonica	Japanese Honeysuckle
Miscanthus species	Eulalia Grass
Muehlenbergia species**	Deer Grass
Palmae species	Palms
Picea species	Spruce Trees
Pickeringia Montana**	Chaparral Pea
Pinus species	Pines
Podocarpus species	Fern Pine
Pseudotsuga menziesii	Douglas Fir
Rosmarinus species	Rosemary
Salvia mellifera**	Black Sage
Taxodium species	Cypress
Taxus species	Yew
Thuja species	Arborvitae
Tsuga species	Hemlock
Urtica urens**	Burning Nettle

** San Diego County native species

APPENDIX 'B' References:

Gordon, H. White, T.C. 1994. Ecological Guide to Southern California Chaparral Plant Series. Cleveland National Forest.

Willis, E. 1997. San Diego County Fire Chief's Association. Wildland/Urban Interface Development Standards

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City of Vista, California 1997. Undesirable Plants. Section 18.56.999. Landscaping Design, Development and Maintenance Standards.

www.bewaterwise.com. 2004. Fire-resistant California Friendly Plants.

www.ucfpl.ucop.edu. 2004. University of California, Berkeley, Forest Products Laboratory, College of Natural Resources. Defensible Space Landscaping in the Urban/Wildland Interface. A Compilation of Fire Performance Ratings of Residential Landscape Plants.

County of Los Angeles Fire Department. 1998. Fuel Modification Plan Guidelines. Appendix I, Undesirable Plant List, and Appendix II, Undesirable Plant List.

APPENDIX ‘C’

BehavePlus Version 3.0.2 Fire Behavior Calculations

BehavePlus 3.0.2 (Build 265)

East 60

Wed, Aug 13, 2008 at 12:25:16

Input Worksheet

Modules: SURFACE

Input Variables	Input Value(s)	Units
Fuel/Vegetation, Surface/Understory		
Fuel Model	SCAL18	
Fuel Moisture		
1-h Moisture	2	percent
10-h Moisture	3	percent
100-h Moisture	5	percent
Live Herbaceous Moisture	30	percent
Live Woody Moisture	50	percent
Weather		
20-ft Wind Speed	60	mi/h
Wind Adjustment Factor	0.4	
Wind Direction (from north)	45	deg
Terrain		
Slope Steepness	15	percent
Aspect (from north)	180	deg
Notes		

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always

for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	286.9	ft/min
Fireline Intensity	20838	Btu/ft/s
Flame Length	43.6	ft

BehavePlus 3.0.2 (Build 265)

East Treated

Wed, Aug 13, 2008 at 12:26:49

Input Worksheet

Modules: SURFACE

Input Variables	Input Value(s)	Units
Fuel/Vegetation, Surface/Understory		
First Fuel Model	gr1	
Second Fuel Model	tl6	
First Fuel Model Coverage	50	percent
Fuel Moisture		
1-h Moisture	2	percent
10-h Moisture	3	percent
100-h Moisture	5	percent
Live Herbaceous Moisture	30	percent
Live Woody Moisture	50	percent
Weather		
20-ft Wind Speed	60	mi/h
Wind Adjustment Factor	0.4	
Wind Direction (from north)	45	deg
Terrain		
Slope Steepness	15	percent
Aspect (from north)	180	deg
Notes		

Run Option Notes

Two fuel model weighting method: two-dimensional spread [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always

for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	78.1	ft/min
Fireline Intensity	936	Btu/ft/s
Flame Length	10.5	ft

BehavePlus 3.0.2 (Build 265)

South 30

Wed, Aug 13, 2008 at 12:27:32

Input Worksheet

Modules: SURFACE

Input Variables	Input Value(s)	Units
Fuel/Vegetation, Surface/Understory		
Fuel Model	SCAL18	
Fuel Moisture		
1-h Moisture	2	percent
10-h Moisture	3	percent
100-h Moisture	5	percent
Live Herbaceous Moisture	30	percent
Live Woody Moisture	60	percent
Weather		
20-ft Wind Speed	30	mi/h
Wind Adjustment Factor	0.4	
Wind Direction (from north)	225	deg
Terrain		
Slope Steepness	15	percent
Aspect (from north)	180	deg
Notes		

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always

for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	145.4	ft/min
Fireline Intensity	10507	Btu/ft/s
Flame Length	31.8	ft

BehavePlus 3.0.2 (Build 265)

South Treated

Wed, Aug 13, 2008 at 12:28:13

Input Worksheet

Modules: SURFACE

Input Variables	Input Value(s)	Units
Fuel/Vegetation, Surface/Understory		
First Fuel Model	gr1	
Second Fuel Model	tl6	
First Fuel Model Coverage	50	percent
Fuel Moisture		
1-h Moisture	2	percent
10-h Moisture	3	percent
100-h Moisture	5	percent
Live Herbaceous Moisture	30	percent
Live Woody Moisture	60	percent
Weather		
20-ft Wind Speed	30	mi/h
Wind Adjustment Factor	0.4	
Wind Direction (from north)	225	deg
Terrain		
Slope Steepness	15	percent
Aspect (from north)	180	deg
Notes		

Run Option Notes

Two fuel model weighting method: two-dimensional spread [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always

for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	39.4	ft/min
Fireline Intensity	340	Btu/ft/s
Flame Length	6.6	ft

South Typical Treated
Wed, Aug 13, 2008 at 12:28:53

Input Worksheet

Modules: SURFACE

Input Variables	Input Value(s)	Units
Fuel/Vegetation, Surface/Understory		
First Fuel Model	gr1	
Second Fuel Model	tl6	
First Fuel Model Coverage	50	percent
Fuel Moisture		
1-h Moisture	4	percent
10-h Moisture	6	percent
100-h Moisture	8	percent
Live Herbaceous Moisture	50	percent
Live Woody Moisture	60	percent
Weather		
20-ft Wind Speed	10	mi/h
Wind Adjustment Factor	0.4	
Wind Direction (from north)	225	deg
Terrain		
Slope Steepness	15	percent
Aspect (from north)	180	deg
Notes		

Run Option Notes

Two fuel model weighting method: two-dimensional spread [SURFACE].

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always
for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	15.7	ft/min
Fireline Intensity	50	Btu/ft/s
Flame Length	2.7	ft

BehavePlus 3.0.2 (Build 265)

South Typical

Sat, Aug 16, 2008 at 10:45:24

Input Worksheet

Modules: SURFACE

Input Variables	Input Value(s)	Units
Fire Name	Maria Ave	
Fire Date & Projection Period	FMP Aug 2008	
Fire Analyst	Mel Johnson	
Fuel/Vegetation, Surface/Understory		
Fuel Model	SCAL18	
Fuel Moisture		
1-h Moisture	4	percent
10-h Moisture	6	percent
100-h Moisture	8	percent
Live Herbaceous Moisture	50	percent
Live Woody Moisture	60	percent
Weather		
20-ft Wind Speed	10.0	mi/h
Wind Adjustment Factor	0.4	
Wind Direction (from north)	225	deg
Terrain		
Slope Steepness	15	percent
Aspect (from north)	180	deg

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Results

Output Variable	Value	Units
Surface Rate of Spread (maximum)	43.7	ft/min
Fireline Intensity	2771	Btu/ft/s
Flame Length	17.3	ft

APPENDIX 'D'

Non-Combustible & Fire Resistant Building Materials For Balconies, Carports, Decks, Patio Covers and Floors

Examples of non-combustible & fire resistant building materials for balconies, carports decks, patio covers and floors are as follow:

I. **NON-COMBUSTIBLE HEAVY GAGE ALUMINUM MATERIALS** - *Metals USA Building Products Group - Ultra-Lattice*

Ultra-Lattice Stand Alone Patio Cover

Ultra-Lattice Attached Patio Cover

Ultra-Lattice Solid Patio Cover

Ultra-Lattice Vs. Wood

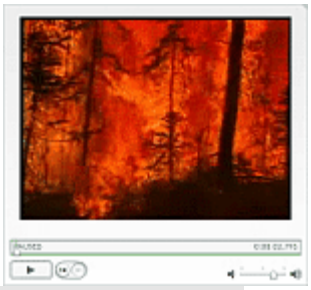
II. FRX Exterior Fire-Retardant Treated Wood

Exterior Fire Retardant Treated (FRT) Wood

FRX® fire retardant treated wood may be used in exterior applications permitted by the codes where: public safety is critical, other materials would transfer heat or allow fires to spread, sprinkler systems cannot easily be installed, corrosive atmospheres necessitate excessive maintenance of other materials, or fire protection is inadequate or not readily available. The International Building, Residential and Urban-Wildland Interface Codes and regulations permit the use of fire retardant treated wood in specific instances. See below for typical exterior uses and typical residential uses.

Typical Exterior Uses

- Balconies
- Decks



Homeowners and Residential Architects: See this 2-minute video and the diagram below.

For information on fire retardant treated wood for exterior uses, visit www.frxwood.com.

III. TREX COMPANY, INC –"Trex Accents ®: Fire Defense ™ " wood and polyethylene composite deck board, nominal 5/4" thick x 5-1/2" width, nominal density of 0.036 lb/in^3.

Trex Accents®: Fire Defense™

The perfect blend of beauty and brawn.

Trex's #1 selling platform, Trex Accents®, exceeds the strict fire regulations set by the State of California and San Diego County.

- Offers superior safety performance:
  - Exceeds ASTM E84 Class B Flame Spread.
  - Exceeds 12-7A-4 Part A (underflame) and Part B (Burning Brand).
- Self-extinguishing even under extreme fire exposure.
- Approved for use by the California State Fire Marshal's Office and San Diego County. Read the California Department of Forestry and Fire Protection, Office of the State Fire Marshal WILDLAND URBAN INTERFACE (WUI)PRODUCTS Report. (PDF)

IV. SOLID "WOOD" DECKING

◊Company Name: Various Manufacturers
Product Description: Solid "Wood" decking: "Redwood", "Western Red Cedar", "Incense Cedar", "Port Orford Cedar", and "Alaska Yellow Cedar".
Sizes: Minimum nominal 2" thickness (American Softwood Lumber Standard PS 20).
Lumber grades: Construction Common and better grades for Redwood, 3 Common and better grades for Cedars, and commercial decking or better grades for both Redwood and Cedars.

Special instructions: Solid wood decking shall be installed over solid wood joists spacing 24" or less on center.

APPENDIX 'E'

As of the date of this FPP the following are the San Diego County requirements for ignition resistant construction requirements which include requirements under the California Building Code Chapter 7A.

1. All structures will be built with a Class A Roof Assembly, including a Class A roof covering, and attic or foundation ventilation louvers or ventilation openings in vertical walls shall not exceed 144 square inches per opening and shall be covered with 1/4-inch mesh corrosion-resistant metal screening or other approved material that offers equivalent protection. Attic ventilation shall also comply with the requirements of the Uniform Building Code (U.B.C.). Ventilation louvers and openings may be incorporated as part of access assemblies.

2. Where the roof profile allows a space between the roof covering and roof decking, the spaces shall be constructed to prevent the intrusion of flames and embers, be firestopped with approved materials or have one layer of No. 72 ASTM cap sheet installed over the combustible decking.

3. When provided, exposed valley flashings shall be not less than 0.019-inch (No. 26 galvanized sheet gage) corrosion-resistant metal installed over a minimum 36-inch-wide underlayment consisting of one layer of No. 72 ASTM cap sheet running the full length of the valley.

4. Paper-faced insulation shall be prohibited in attics or ventilated spaces.

5. All chimney, flue or stovepipe openings will have an approved spark arrester. An approved spark arrester is defined as a device constructed of nonflammable materials, 12 gauge minimum thicknesses or other material found satisfactory by the Fire Protection District, having ½-inch perforations for arresting burning carbon or sparks. It shall be installed to be visible for the purposes of inspection and maintenance.

6. All residential structures will have automatic interior fie sprinklers installed according to the National Fire Protection Association (NFPA) 13D- *Standard for the Installation of Sprinkler Systems in One and Two-family Homes and Manufactured Homes* and the San Miguel Fire Protection District standards.

7. All glass or other transparent, translucent or opaque glazing materials including skylights shall be constructed multi-layered glazed panels one layer of which must be tempered glass. No skylights will be allowed on the roof assembly facing hazardous vegetation.

8. The exterior walls surface materials shall be non-combustible or an approve alternate. In all construction, exterior walls are required to be protected with 2-inch nominal solid blocking between rafters at all roof overhangs.

9. All eaves, fascias and soffits will be enclosed (boxed) with non-combustible materials. This shall apply to the entire perimeter of each structure.

10. All rain gutters, down spouts and gutter hardware shall be constructed from metal or other noncombustible material to prevent wildfire ignition along eave assemblies .

11. Gutters shall be provided with the means to prevent the accumulation of leaf litter and debris that contribute to roof edge ignition.

12. All side yard fence and gate assemblies (fences, gate and gate posts) when attached to the home shall be of non-combustable material. The first five feet of fences and other items attached to a structure shall be of non-combustible material.

13. No attic ventilation openings or ventilation louvers shall be permitted in soffits, in eave overhangs, between rafters at eaves, or in other overhanging areas.

14. All projections (exterior balconies, decks, patio covers, unenclosed roofs and floors, and similar architectural appendages and projections) or structures less than five feet from a building shall be of non-combustible material, one-hour fire resistive construction on the underside, heavy timber construction or pressure-treated exterior fire-retardant wood. When such appendages and projections are attached to exterior fire-resistive walls, they shall be constructed to maintain same fire-resistant standards as the exterior walls of the structure.

15. Exterior doors shall be approved non-combustible construction, solid core wood and shall conform to the performance requirements of standard SFM 12-7A-1 or shall be of approved noncombustible construction, or solid core wood having stiles and rails not less than 1⅜ inches thick with interior field panel thickness no less than 1¼ inches thick, or shall have a fire-resistance rating of not less than 20 minutes when tested according to ASTM E2074.

16. Vinyl window assemblies are deemed acceptable if the windows have the following characteristics:
    - Frame and sash are comprised of vinyl material with welded corners
    - Metal reinforcements in the interlock area
    - Glazed with insulating glass, annealed or tempered (one layer of which must be tempered glass).
    - Frame and sash profiles are certified in AAMA Lineal Certification Program
    - Certified and labeled to ANSI/AAMA/NWWDA 101/LS2-97 for Structural Requirements

17. All windows shall be provided with 1/8 inch mesh metal or similar non-combustible screens to prevent embers from entering the structure during high wind conditions

18. Roof vents, dormer vents, gable vents, foundation ventilation openings, ventilation openings in vertical walls, or other similar ventilation openings shall be louvered and covered with 1/4-inch, noncombustible, corrosion-resistant metal mesh or other approved material that offers equivalent protection. Turbine attic vents shall be equipped to allow, one-way direction rotation only; they shall not free spin in both directions.

19. Combustible eaves, fascias and soffits shall be enclosed. Eaves of heavy timber construction are not required to be enclosed as long as attic venting is not installed in the eaves. For the purposes of this section heavy timber construction shall consist of a minimum of 4x6 rafter ties and 2x decking.

20. Attic or foundation ventilation louvers or ventilation openings in vertical walls shall not exceed 144 square inches per opening and shall be covered with ¼-inch mesh corrosion-resistant metal screen or other approved material that offers equivalent protection.

The following additional construction features are required for the structures on Lots 31 and 6/7/8.

1. All exterior doors shall have automatic door closers.

2. Interior sprinklers shall be extended through the wall and under the eaves on the south and east sides of the structure.

APPENDIX ‘F’

Off-Site Maintenance Agreement

A SALVAGE AND TRANSLOCATION PLAN

FOR THE

POLSELLI PROPERTY

REZ 08-002

County of San Diego

Prepared for

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~~Revised May 2010~~

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CERTIFIED REVEGETATION PLANNER

Prepared for Submittal to the County of San Diego

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1. DESCRIPTION OF THE IMPACT SITE FOR WHICH SALVAGE AND TRANSLOCATION IS REQUIRED

1.1 Responsible Parties

The REZ 08-002 property is the site for which salvage and translocation is required. The property owner (Dictionary Hill Developers, L.P.) is currently responsible for mitigation associated with the REZ 08-002 project site, including salvage and translocation of Coast Barrel Cactus. This responsibility for this salvage and translocation shall transfer to any subsequent owner(s) of the property once the REZ 08-002 project has been approved.

1.2 Location of the Project

The REZ 08-002 project site (APNs 584-200-36, -66, -67, & -70–78) is located in the La Presa community of unincorporated San Diego County, south of San Carlos Street and bounded on the east and west by the proposed future extensions of La Presa Avenue and Maria Avenue, respectively (Figure 1). The property can be found on page 1291 of the Thomas Guide for San Diego County. Specifically, the project site is located at 32°42'15"N and 116°59'37"W.

1.3 Summary of Overall Project with Proposed Mitigation

1.3.1 Current Environmental Setting and Site Conditions

In September of 2006, the approximately 1.56-acre REZ 08-002 project site was surveyed for biological resources by the author and Julia L. Groebner, Associate Biologist. Mr. Scheidt and Ms. Groebner conducted additional surveys of the site and adjoining offsite areas in April and May of 2010. A prior biological survey of this site was completed by Affinis in 1990 (*Biological Survey Report for the Polselli Property, L-1979, Log No. 90-19-1*). The results of these studies can be found in Attachment B, "Biological Resources, Project Impacts, and Mitigation: The Polselli Property, REZ 08-002, La Presa" (Scheidt, 2010).

The property slopes gently to the south towards the Sweetwater Reservoir, which is located approximately 0.17 mile to the south. Elevations onsite range between approximately 277 and 328 feet MSL. Access to the property is from the ends of Maria and La Presa Avenues. Two of the lots that comprise the REZ 08-002 project site are currently developed (lots 70 and 36) with houses and patios, although the remaining ten are in a mostly natural state (undeveloped). Currently, the property supports Diegan Coastal Sage Scrub (Holland Code 32500), Disturbed Habitat (Holland Code 11300), and Urban/Developed Habitat (Holland Code 12000). Forty-two species of vascular plants and forty species of vertebrate animals were detected during the various field surveys of the REZ 08-002 site. Three sensitive plants and one sensitive animal were detected during the 2006 field survey. These are San Diego County Needle Grass, Coast Barrel Cactus, San Diego County Viguiera, and

California Gnatcatcher. An additional two sensitive sensitive animal species were reported from the site in 1990. These are San Diego Cactus Wren and Bewick's Wren. Other sensitive animals might be anticipated to occur onsite, at least on an occasional basis, but were undetected during the surveys.

It should be noted that, in 1991, Mr. Fred Sproul removed all specimens of Coast Barrel Cactus *(Ferocactus viridescens)* from the western half of the REZ 08-002 project site for salvage and transfer to the Tree of Life Nursery in San Juan Capistrano. This removal was in response to the requirements entailed in the letter of May 21, 1991 for L1979, Log No. 90-91-1. This salvage effort explains why no specimens of this species currently remain on western half of the subject property.

To the north, northeast, and west the site adjoins single family residential development. To the south and southeast are relatively undisturbed areas, including the Sweetwater Reservoir. Open lands lie between the site and the reservoir, although a Caltrans right-of-way for the future construction of SR 54 is present immediately to the south of the REZ 08-002 project site.

1.3.2 Project Impacts

The REZ 08-002 project proposes grading for construction of the extensions of Maria Avenue and La Presa Avenue from their respective intersections with San Carlos Street and grading associated with development of ten of the twelve lots that comprise the site (APN 584-200-66, -67, & -71–78). Homes are currently proposed for eight of the undeveloped lots; the other two will be developed with turnarounds for the extensions of Maria Avenue and La Presa Avenue. It is anticipated that development of the REZ 08-002 project site will result in the removal of all native vegetation from the property. This would result in impacts to 0.25 acre of Diegan Coastal Sage Scrub. An additional 0.91 acre of Disturbed Habitat and 0.09 acre of Urban/Developed Habitat would also be impacted by the project. Offsite fire clearing to the east will impact approximately 0.06 acre of Diegan Coastal Sage Scrub. However, habitat impacts are not the subject of this Salvage and Translocation Plan, as it is focused on the need for species-specific mitigation.

Approximately 30 mature Coast Barrel Cactus specimens are present on the eastern half of the REZ 08-002 property. An additional 15 specimens are present immediately to the south of the project site within the Caltrans right-of-way. Approximately 14 specimens are present offsite to the east within the offsite fire clearing area. The approximately 30 Coast Barrel Cactus specimens found onsite plus 14 specimens offsite to the east would be impacted by the project in the absence of the salvage and translocation program detailed by this plan.

2. GOALS OF THE SALVAGE AND TRANSLOCATION PROGRAM

The goal of the salvage and translocation program detailed in this plan is to preserve biotic resources that would

otherwise be lost during site development, namely, approximately 44 Coast Barrel Cactus specimens. The goal of this plan, therefore, is to provide detailed salvage and translocation methodologies to ensure the success of the operation. This includes the specific specimens to be conserved, the methods of salvage, the specific locations for translocation, and the time frames for use of materials, etc. as appropriate.

2.1 Responsibilities

The following parties shall be responsible for implementation of this Salvage and Translocation Plan:

- The property owner (Dictionary Hill Developers, L.P.) shall ensure that all necessary funds are in place so that plan implementation is completed in an effective and timely manner. This responsibility shall transfer to any subsequent owner(s) of the REZ 08-002 project site.

- The County of San Diego Department of Planning and Land Use (DPLU) is responsible for ensuring that implementation of this plan takes place in a timely and effective manner.

- The Project Biologist (Revegetation Planner) shall be responsible for preparing and obtaining County and Wildlife Agency (if necessary) approval of this plan, for directly supervising all salvage and translocation activities, and for coordinating with the Salvage and Translocation Contractor.

- The Salvage and Translocation Contractor shall be responsible for the timely and effective salvage and translocation of all materials described in this plan and for coordinating directly with the Project Biologist.

- The Translocation Monitor shall be responsible for conducting regular inspections of the translocation site, assessing site conditions, and preparing regular biological monitoring reports. The Project Biologist may serve as the Translocation Monitor.

- The Maintenance Contractor shall be responsible for the maintenance of the translocation area for the duration of the biological monitoring period, as discussed subsequently in this report. If properly qualified, the Salvage and Translocation Contractor may serve as the Maintenance Contractor.

All members of the Salvage and Translocation Team shall be experienced in working with successful cactus salvage and translocation projects in San Diego County. This plan has been designed by Vincent N. Scheidt, Certified Revegetation Planner. See Attachment A for a list of similar, approved projects that were implemented under the direction of the Project Revegetation Planner.

2.2 Associated Mitigation Requirements

Impacts to most of the site's resident sensitive species are "covered" via habitat-based mitigation, pursuant to the County of San Diego's Biological Mitigation Ordinance (BMO). However, impacts to Coast Barrel Cactus require species-based mitigation. Therefore, one of the project's mitigation measures is that all specimens of Coast Barrel Cactus that could be affected by the project must be transplanted to the Otay Water District's San Miguel Habitat Management Area in Chula Vista (Figure 2). The Otay Water District will allow the transplantation to occur under several conditions, which the property owners have agreed to meet (Attachment B). One of these conditions is that the transplantation of the Coast Barrel Cactus specimens be subject to a County-approved Salvage and Translocation Plan with long-term monitoring and management funded by the property owners. This document fulfills a part of that requirement.

Additional required mitigation measures include the purchase of compensatory, offsite Coastal Sage Scrub habitat at a 1-to-1 ratio, the construction of a freestanding masonry screen wall for fire protection along the southern boundary of the site, and seasonal restrictions on site disturbance to prevent construction related impacts to breeding birds. These measures are unrelated to the requirements of this Salvage and Translocation Plan.

The above mitigation measures are considered adequate mitigation to compensate for project-related losses to biological resources, as defined by CEQA. It should be noted that, pursuant to a Project Issue Resolution Conference held at the County on February 18, 2010, the applicant will be completing all necessary biological mitigation prior to public review, including completion of and/or providing security for any needed transplantation, offsite habitat purchase, and mitigation monitoring. Because mitigation implementation will be part of the project design it will not need to be made a condition of project approval.

2.3 Discretionary Permit Conditions and Requirements

The County's DPLU issued a letter dated October 10, 2008 requiring that a Salvage and Translocation Plan for Coast Barrel Cactus be prepared pursuant to the "County of San Diego Report Format and Content Requirements for Revegetation Plans" (DPLU, 2007) and submitted prior to project approval. This document satisfies that requirement.

Once available, a copy of the final Resolution Form of Decision, with applicable conditions hi-lighted, will be attached to this report as an appendix (Attachment C).

2.4 Timing and Duration

The success of this Salvage and Translocation Plan is expected to take at least five years from the salvage of the

Coast Barrel Cactus specimens and their replanting at the translocation site, which will occur following approval of the REZ 08-002 project and the approval of this plan.

2.5 Costs

Table 2 provides a breakdown of anticipated costs and bonding requirements.

3. DESCRIPTION OF THE TRANSLOCATION SITE

3.1 Site Selection

As mentioned above, the salvaged Coast Barrel Cactus specimens will be translocated to the Otay Water District's San Miguel Habitat Management Area (HMA) in Chula Vista. Prior to the approval of this plan, the project biologist will identify a specific replanting area within the translocation site. A discussion of the specific features of the replanting area will then be included in this section. Figure 3 illustrates potential replanting areas within the translocation site.

3.1.1 Physical and Hydrological Factors

Portions of the San Miguel HMA are both physically and hydrologically suited to the translocation of Coast Barrel Cactus. The potential replanting areas identified (Figure 3) contain gentle slopes with suitable soils, rock outcrops, etc. The transplanted specimens shall be situated within the selected replanting area in spots that are physically and hydrologically suited to maximize the survivorship potential of this species.

3.1.2 Biological Factors

Most of the San Miguel HMA contains habitats and sensitive species that are compatible with the transplantation of Coast Barrel Cactus. The potential replanting areas identified (Figure 3) already support Coast Barrel Cactus specimens, along with other stem succulents within Diegan Coastal Sage scrub.

3.1.3 Logistical Factors

Access to the San Miguel HMA for transplanting and monitoring purposes will be provided, but the replanting area will be otherwise restricted to public access. This will maximize the survivorship potential of the transplanted Coast Barrel Cactus specimens by ensuring that they are not trampled or otherwise disturbed in the future.

3.1.4 Historical Factors

Portions of the San Miguel HMA have been used in the past as replanting areas for stem succulents, including Coast Barrel Cactus. The transplanted specimens associated with the REZ 08-002 project site shall be situated within the selected replanting area in locations that show clear evidence of suitability for this species, based on historical factors such as site disturbance, etc.

3.2 Location and Size of Translocation Site

The HMA is located within the Otay Water District's 509-acre Wastewater Reclamation Use Area on property that was annexed into the City of Chula Vista in 1999 (Figure 2). The HMA is positioned at the base of the slopes of Mother Miguel and San Miguel Mountains, approximately 1.5 miles southeast of Sweetwater Reservoir and 1.5 miles northwest of the Upper Otay Reservoir. Salt Creek Golf Club bisects the two halves of the HMA. The specific replanting area will be located at the northern end of the HMA (Figure 3)

3.3 Functions and Values

The San Miguel HMA provides wildlife functions and values that meet or exceed the needs of the specimens of Coast Barrel Cactus to be salvaged from the REZ 08-002 project site.

3.4 Present and Proposed Uses

The San Miguel HMA is conserved land that will be protected in perpetuity. No future land-use decisions that would result in impacts to Coast Barrel Cactus or any other indigenous species within the HMA may be approved, pursuant to the conservation easement recorded over this area.

3.5 Reference Site

The HMA contains two cactus transplantation areas that could serve as potential reference sites with which to compare the success of the Coast Barrel Cactus salvage and translocation effort. Coast Cholla was planted in three areas in the northern portion of the HMA between 1997 and 1998 by Merkel & Associates. And in 2006, D&D Wildlife Habitat Restoration, Inc. collected and planted approximately 250 cuttings of Coast Cholla (*Cylindropuntia prolifera*), Coast Barrel Cactus, and Coast Prickly Pear (*Opuntia littoralis*) along the western portion of the HMA and within the Native Grassland Restoration Area, which is located at the southeast corner of the HMA. As mentioned above, the Harris fire burned the majority of these areas in 2007; therefore, their recovery is still being monitored by D&D Wildlife Habitat Restoration, Inc. However, because both of these

areas involve the transplantation of cacti, they represent potential reference sites for the purposes of this Salvage and Translocation Plan.

4. IMPLEMENTATION PLAN FOR SALVAGE AND TRANSLOCATION

4.1 Rationale for Expecting Implementation Success

The criteria used in the design of this Salvage and Translocation Plan consist of standards, methodologies, and protocols that have demonstrated success at implementation for similar projects in the past. A concerted effort to identify a suitable planting location and specific planting spots, appropriate species composition in adjoining areas, and other factors has been made during the design of the Salvage and Translocation Plan. The goal of this effort has been to maximize the chances of successful salvage and translocation of the approximately 44 specimens of Coast Barrel Cactus from the REZ 08-002 project site to the translocation area. This program has been developed specifically for the REZ 08-002 project site (including the offsite fire clearing area) and the translocation area, taking into account parameters specific to each property, such as indigenous floristic composition, soil characteristics, aspect, drainage patterns, and other factors.

4.2 Financial Assurances

The current owner or subsequent owner(s) of the REZ 08-002 property shall bear the financial responsibility to fund all required transplantation activities, including site preparation, salvage, translocation, maintenance, and monitoring. A salvage and translocation agreement shall be signed and notarized by the property owner following approval of this plan and accompanied by the required security as agreed upon by the County of San Diego.

4.3 Schedule

Pending the approval of this Salvage and Translocation Plan, the translocation area shall be immediately prepared and the salvage of the Coast Barrel Cactus specimens from the REZ 08-002 property shall begin. Following the successful completion of all initial salvage and translocation activities, which shall be determined by the County of San Diego, the five year maintenance and monitoring period shall begin. The salvage and translocation program shall be deemed complete at the end of the five year maintenance and monitoring period, as determined by the County of San Diego.

4.4 Translocation Site Preparation

4.4.1 Equipment Proposed for Use during Implementation

The salvage and translocation operation shall be conducted entirely by hand. The only equipment proposed for use during the implementation of this plan shall be a small truck that will be used to transport the salvaged Coast Barrel Cactus specimens from the salvage site to the translocation site.

4.4.2 Site Accessibility

To access the salvage site, contractors will use the existing onsite dirt roads, which originate at the southern termini of Maria Avenue and La Presa Avenue, respectively. Prior to accessing the salvage site and implementation of this plan, the project biologist shall meet with the contractors, locate and flag off all specimens for salvage, and flag-off access routes so as to minimize impacts to adjacent sensitive habitats.

The specific replanting area will be located near the northern end of the San Miguel HMA and will be accessed from the south, through the Otay Water District's Salt Creek Golf Club. Restricted access roads lead to within a few hundred feet of the replanting area. Final access to the replanting area shall be on foot.

Prior to accessing the translocation site and implementation of this plan, the project biologist shall meet with the contractors and flag-off access areas so as to minimize impacts to adjacent sensitive habitats.

4.4.3 Protection of Adjacent Habitats during Salvage and Translocation

Prior to implementation of the salvage and translocation plan, the project biologist will meet with the parties responsible for salvage and translocation to present findings of this report in basic terms and explain the intent of the salvage and translocation program. A primary issue discussed at this meeting shall be efforts by all involved to avoid impacts to adjacent areas of undisturbed native vegetation, both on the salvage and translocation sites. The intent of the meeting will be to inform the attendees of the sensitivity of the habitat in these areas, and thus presumably minimize losses.

Prior to the commencement of salvage, the perimeter of the salvage area shall be staked and flagged to prevent damage to adjacent habitat. Flagging materials (lath, caution tape) shall be used to identify the appropriate work area. The same guidelines shall apply to work occurring on the translocation site. Prior to the commencement of translocation activities, the perimeter of the specific replanting area within the translocation site shall be staked and flagged to prevent damage to adjacent habitat. Flagging materials (lath, caution tape) shall be used to identify the

appropriate work area.

4.4.4 Permanent and Temporary Protection Measures

All salvage and translocation activities shall occur under the direct supervision of the project biologist. As noted above, the project biologist shall use stakes and/or flagging materials to identify the perimeters of the salvage area and the replanting area. These stakes and flagging may be used as guidelines for the placement of temporary fencing, if needed, at the edges of these areas to ensure that any adjoining sensitive habitat is not impacted by the salvage and translocation activities. If required, the project biologist shall verify in the field that this temporary fencing has been placed appropriately. The need for temporary fencing in this case is not anticipated.

Due to the small scale of the salvage and translocation effort and the fact that it will involve minimal soil disturbance, it is not anticipated that additional habitat protection measures, such as BMPs, will be needed. However, if necessary, all sensitive habitat areas adjacent to salvage and translocation activities shall be protected in accordance with any essential BMPs to reduce potential secondary impacts to sensitive habitat. However, if these measures are required, the project biologist shall:

(1) Stake or flag the specific location of any needed temporary habitat protection fence, and/or examine and verify the correct placement of said fencing after it has been installed, but prior to the commencement of salvage and translocation activities.

(2) Inspect stormwater management measures (BMPs) put into place as needed to ensure that all erosion control devices (straw waddles, sand bags, etc.) have been properly installed, preventing potential erosion concerns.

(3) Document in writing that the habitat protection fence and the erosion control devices have remained in place during the planting period. Evidence of this shall be provided in a letter to the County's Landscape Architect.

Permanent, high visibility metal signs shall be placed at 200-foot intervals along all segments of the replanting area. These signs shall read:

Sensitive Environmental Resources
Disturbance Beyond this Point is Restricted

Information:

Contact County of San Diego, Department of Planning and Land Use

Ref: REZ 08-002

4.4.5 Proposed Timing of Salvage

The salvage of specimens shall be generally restricted to the cooler fall/winter months of each year, herein defined as being the period between October 1 and February 1. This period may be extended if winter rainfall events are delayed. Specimens shall be removed only during this period to maximize survivorship potential. No salvage activities will be allowed to occur during the California Gnatcatcher breeding season (March 1 to August 15).

4.4.6 Salvage of Specimens

Prior to the initiation of any clearing, grading, grubbing, or other site development activities, the project biologist shall survey the entire property, including the offsite fire clearing area, to carefully locate all affected specimens of Coast Barrel Cactus. The precise number of specimens intended for salvage and translocation shall be documented by the project biologist prior to any site work, and all Coast Barrel Cactus specimens shall be flagged or marked with stakes so that none are missed in the salvage effort. If possible, the salvage and translocation effort will include the collection of Coast Barrel Cactus seeds from the project site and the planting of these seeds at the translocation site to ensure that the applicable success criteria are met (see page 17).

All salvage activities shall be conducted under the direct, full-time field supervision of the project biologist. Each Coast Barrel Cactus specimen will be carefully dug from the ground using hand tools. Great care will be taken to retain as much soil around the root-ball as is possible. Immediately following removal, the specimens will be placed in plastic buckets, trays, or on plastic sheeting for immediate transportation to the translocation site. If Coast Barrel Cactus seeds are available at the time that the salvage effort is conducted, they shall be collected by hand for planting on the translocation site.

The stockpiling or storage of specimens is generally not appropriate and will not be necessary in this specific case. Because a translocation site has already been identified and a specific replanting area will be delineated prior to salvage, the translocation shall be conducted immediately after salvage. Because of the limited numbers of specimens to be salvaged, all fieldwork shall be completed in one single effort. Once salvage is complete, the materials will be immediately transported to the replanting area for same-day translocation. All salvage and translocation activities must be completed prior to initiating any site clearing, grubbing, or grading activities.

4.5 Planting Plan

4.5.1 Location and Identification of Specific Planting Locations

As discussed above, the salvaged Coast Barrel Cactus specimens will be translocated to the Otay Water District's

San Miguel Habitat Management Area in Chula Vista. Prior to the removal of any specimens, the specific replanting area within the translocation site will be identified, marked, and prepared for the translocation effort. Figure 3 illustrates potential replanting areas within the translocation site. The location of each planting hole within the replanting area will be selected by the project biologist and marked in the field with flagging or stakes. The conditions at each specific planting hole shall match, to the maximum extent possible, the conditions where the salvaged specimens presently grow. For example, the project biologist shall match, as closely as possible, the slope, aspect, drainage patterns, amount of exposure, etc. at each specific planting hole.

4.5.2 Translocation of Specimens

The project biologist shall thoroughly photo-document the specific replanting area at the translocation site prior to ground disturbance. Preparation of the replanting area will include the manual removal (to ground level) of any weeds found in close proximity to the planting holes. Efforts will be made to minimize soil surface disturbances. This will preclude chances for erosion or other drainage-related problems. Each planting hole will be hand dug using manual tools immediately prior to its use. Excess soil removed from the planting holes will be placed in five-gallon buckets for removal from the translocation site. Watering of the planting holes will occur at the discretion of the supervising biologist, and only at the time of initial planting or as deemed necessary. No soil amendments, fertilizers, etc. will be added to the planting holes or substrate. Only indigenous soil as removed from the planting hole will be used to "pack" the root system within the planting hole. Great care shall be taken by all involved to prevent the trampling of adjacent vegetation. This will protect the habitat value of this area and minimize the "visual profile" of the replanted specimens. Following replanting, there should be little evidence that disturbance has taken place within the translocation site. Any Coast Barrel Cactus seeds that had been collected at the time of specimen salvage shall be hand planted adjacent to the transplanted specimens at the time of translocation.

Upon completion of the salvage and translocation of all specimens, the biologist shall provide evidence in writing that the salvage work is complete and that all Coast Barrel Cactus specimens have been relocated to areas out of harm’s way.

4.6 Irrigation

Irrigation of the specimens will be strictly prohibited in order to minimize chances for weed infestations and related problems. The only exception to this will be prewatering of the planting holes that may be allowed at the discretion of the project biologist.

5. MAINTENANCE DURING MONITORING

5.1 Maintenance Activities

5.1.1 Maintenance and Weeding

The weeding of non-native annual forbs and grasses shall occur on an “as needed” basis throughout the five-year maintenance and monitoring period. The translocation monitor, in coordination with the maintenance contractor, shall define the need for weeding and a weeding schedule. At a minimum, four weeding visits shall be conducted each year of the five-year period, with one of these visits occurring in the spring and one occurring in the summer, to adequately control exotics. The actual weeding schedule shall be flexible and based on precipitation, weed recruitment, and other factors.

Dictionary Hill Developers, L.P. shall be responsible for the manual removal of any perennial exotics that become established in the replanting area, including (but not limited to), Giant Wild Reed *(Arundo donax)*, Castor Bean *(Ricinus communis)*, Salt Cedar *(Tamarix* sp.*)*, Mexican Fan Palm *(Washingtonia robusta)*, Pampas Grass *(Cortaderia* sp.*)*, Brazilian Peppertree *(Schinus terebinthifolius)*, seedling *Eucalyptus, Acacia*, and others. Removal of exotics shall occur under the direction of the translocation monitor.

The use of control agents such as herbicides will be avoided. Any use that may become necessary will occur under the direction of the translocation monitor.

5.1.2 Pruning

The pruning or removal of the native species that become established in the replanting area as a result of recruitment from the surrounding area shall not be permitted under any circumstances, unless determined by the translocation monitor to be absolutely necessary for the establishment of the replanted specimens. Any necessary pruning or removal of native species will be biologically monitored.

5.1.3 Trash and Debris Removal

Removal of all trash and litter will occur on a regular basis. This shall include the clearing of all surface debris prior to planting. All planting debris (containers, trash, etc.) shall be removed from the site immediately after use. No trash or other materials not specifically related to the salvage and translocation effort may be stored or placed in the replanting area or on the translocation site.

5.1.4 Pest Control

Control of pests, such as insects, ground squirrels, gophers, etc., will not take place unless specified by the translocation monitor. The need for active pest control is not anticipated although, if necessary, minimally invasive techniques (such as trapping, etc) may be utilized. The use of pesticides will be avoided to the maximum extent feasible.

5.2 Maintenance Schedule

Maintenance of the transplanting site shall be completed on an “as needed” basis, as specified by the translocation monitor. Little to no maintenance is anticipated.

6. MONITORING PLAN FOR TRANSLOCATION SITE

6.1 Performance Standards for Target Dates and Success Criteria

In order to establish the success of the Coast Barrel Cactus salvage and translocation effort, a total count of salvaged and translocated specimens shall be recorded at the end of the initial salvage period. An annual percentage of surviving specimens shall be generated by comparing the original number of salvaged plants with the total number of surviving specimens at the end of each year (including specimens that have germinated from seed, if applicable). Survivorship of the salvaged and translocated specimens at the end of the first year of biological monitoring shall be at least 90 percent. Survivorship at the end of the 2nd, 3rd, 4th, and 5th years of monitoring shall be at least 80 percent.

Should the above survivorship percentages not be generally met at the end of each monitoring year, additional Coast Barrel Cactus specimens will be planted to compensate for all specimens lost, up to the required percentage of the original planting. In addition, a program for adaptive management and remedial actions shall be put into place to address identifiable problems in the replanting area or the failure of the salvage and translocation program to meet success goals. See section 8 of this report.

Non-native cover shall be maintained to match the ambient non-native cover in the parts of the translocation site immediately adjacent to the replanting area. This percentage of non-native cover shall be measured at the time of planting. As describe in section 5.1.1, noxious invasive exotics will be maintained at a 0% cover within the replanting area.

6.2 Monitoring Methods

A biological monitoring program will be implemented to document the growth and development of the salvaged and translocated specimens. The monitoring program will address the progress of the salvage and translocation effort through a five-year study and analysis of the growth, vigor, and integration of the salvaged specimens within the replanting area. Both qualitative and quantitative documentation are recommended. The program will determine the need for remedial activities throughout the duration of the monitoring effort. Color photographs of the translocation site showing overviews of the replanting area, as well as typical translocated specimens in situ, shall be assembled to document the success of the transplantation effort. Photo-documentation shall be initiated before any salvage or translocation of plants takes place, and permanent photo-documentation points shall be established by the end of the first year of biological monitoring.

6.3 Monitoring Schedule

Biological monitoring will begin shortly before the beginning of the salvage and translocation effort with the identification of a specific replanting area within the translocation site, the selection of locations for planting holes, a count of all of the Coast Barrel Cactus specimens present on the project site, and the demarcation of each of these specimens for the salvage effort. It will terminate at the end of a five year period. This five year period will begin at the successful completion of all initial salvage and translocation activities, as determined by the County's DPLU. If success criteria have not been achieved by the end of the five year maintenance and monitoring period, it may be necessary to extend this period. Monitoring inspections will be conducted four times during the first year following implementation, twice during the second and third years, and annually during the fourth and fifth years.

6.4 Monitoring Reports

Letter-format reports summarizing the monitoring program and success of the salvage and translocation effort will be submitted to the County's DPLU as follows:

Year 1: Year-End Report
Year 2: Annual
Year 3: Annual
Year 4: Annual
Year 5: Annual

Each report shall include a qualitative and quantitative analysis of the growth, vigor, and integration of the salvaged specimens within the replanting area. Monitoring and maintenance field data shall be included as an

addendum to each report. Site photographs shall be provided as part of the monitoring reporting effort. The data that are compiled will clearly depict the replanting area and typical translocated specimens.

Reports shall be submitted to the County no later than the first week of January. Any significant issue or contingency that arises on the translocation site (e.g. plant survival issues, fire, or flooding) shall be reported in writing to the County of San Diego within two weeks from the date of the incident. Accompanying the report shall be a plan for remediation, with an implementation schedule and a monitoring schedule.

7. COMPLETION OF SALVAGE AND TRANSLOCATION PROGRAM

At the end of the five year maintenance and monitoring period, the County shall be provided with written Notification of Completion. The County shall make the final determination of the successful completion of all salvage and translocation activities. Wildlife Agency confirmation will be provided as a part of this completion process.

8. CONTINGENCY MEASURES

8.1 Initiating Contingency Procedures

8.1.1 Contingency Circumstances

Should the salvage and translocation program not meet anticipated qualitative and quantitative goals (section 6.1), contingency measures shall be initiated to bring the salvage and translocation program back to its target state.

8.1.2 Replacement Planting

Any dead or diseased translocated specimens will be removed and new replacement specimens will be planted to meet the goals of this plan. The need for replacement plantings, size of replacement specimens, timing of replanting, etc. will be determined by the translocation monitor. The first priority source of replacement specimens shall be from specimens (seed-grown or salvaged) occurring within a five-mile radius of the salvage site. The source of replacement plantings shall be determined by the project biologist in coordination with the maintenance contractor and the County's DPLU. Commercially-grown specimens may be substantially different in terms of genetic composition; hence, these are not acceptable and may not be used.

8.2 Alternative Locations for Contingency Mitigation

If the above survivorship percentages are still not met after the additional stock is planted, the project applicant must notify the County and Wildlife Agencies to determine the best remediation plan. This could include, but is not limited to, purchase of additional offsite mitigation land that supports an agreed-upon number of Coast Barrel Cactus specimens. This contingency mitigation location would need to be identified by a County-approved Revegetation Planner or Biological Consultant working in concert with County staff. The securement and perpetual protection of the contingency mitigation site would need to be ensured via the dedication of a biological open space easement or conservation easement over that land.

8.3 Funding

Dictionary Hill Developers, L.P. shall be responsible for funding contingency mitigation associated with the REZ 08-002 salvage and translocation program. This responsibility shall transfer to any subsequent owner(s) of the REZ 08-002 project site.

Table 1. Bonding Cost Estimate[1] – REZ 08-002
Salvage and Translocation Plan Implementation, Maintenance, and Monitoring

I. Tasks Related to Project Implementation – first 90 days

(1) Field supervision of salvage:
- (a) Locating and flagging of all specimens prior to salvage $1,320
- (d) Field supervision of salvage operations $990

(2) Translocation site preparation (earthwork, BMPs, etc.) ..... none

(3) Temporary fencing of translocation area ..... n/a

(4) Field supervision of specimen replanting:
- (a) Inspection and field spotting of the salvaged plants prior to replanting $1,320
- (b) Field supervision of planting $665
- (c) Post-planting review and photodocumentation $1,320

(5) Various initial follow-up site reviews and 1st report at 90 days $4,950

Total costs: initial revegetation plan implementation and monitoring $10,565

II. Tasks Related to Long-term Monitoring and Reporting:

(6) Conduct detailed biological field monitoring of translocated specimens for five years following initial planting:
- (a) year one (four surveys) $5,280
- (b) year two (two surveys) $2,772
- (c) year three (two surveys) $2,911
- (d) year four (one survey) $1,952
- (e) year five (one survey) $2,050

(7) Prepare technical reports and submit to County and Wildlife Agencies annually for five years:
- (a) year one (year-end report) $1,980
- (b) year two (annual report) $2,079
- (c) year three (annual report) $2,183
- (d) year four (annual report) $2,292
- (e) year five (annual report) $2,407

(8) Maintenance/weeding of the translocation area by a qualified landscape contractor
- (a) $300 per year annual cost, amortized $1,500

(9) Review and approval of annual reports by DPLU
- (a) $200 per year annual cost, amortized $1,000

(10) Contingency (10%) $2,840

Total costs: 5-year biological maintenance and monitoring $31,246

TOTAL - DIRECT COSTS $41,811

3% PER YEAR CPI RATE, FIVE YEARS $6,272

GRAND TOTAL $48,081

CASH DEPOSIT (10%) $4,808

Prepared by Vincent N. Scheidt, Revegetation Planner
May 2010

[1] - *This is an estimate for bonding purposes only. ACTUAL COSTS WILL VARY SIGNIFICANTLY*

CERTIFICATION

I hereby certify that the information contained in this document is complete and accurate to the best of my knowledge as of May 14, 2010.

Vincent N. Scheidt, MA

Certified Revegetation Planner

Figure 1. Regional Location – REZ 08-002
Portion of U.S.G.S. "Jamul Mountains, California" 7.5' Quadrangle

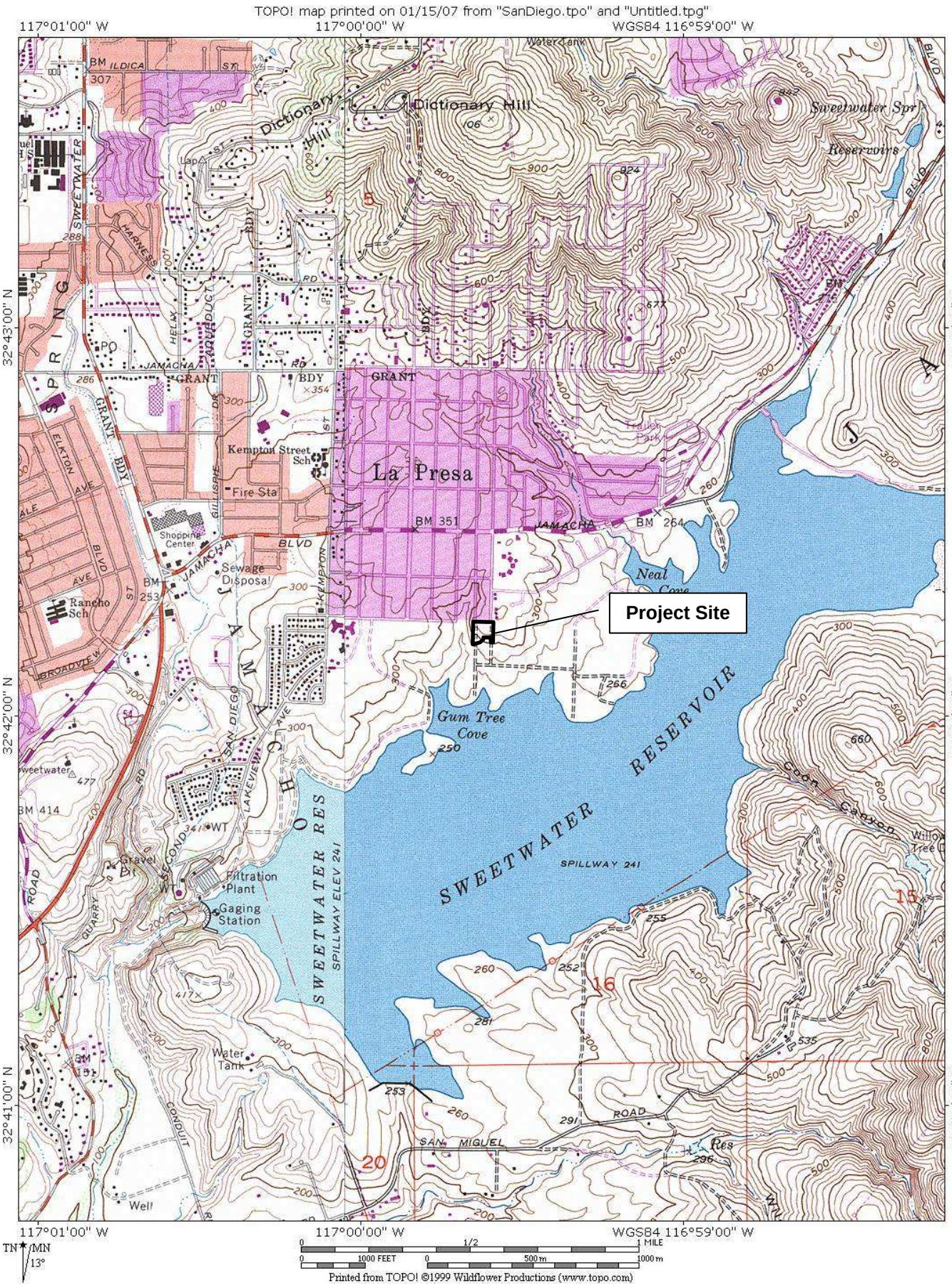


Figure 2. Regional Location –San Miguel Habitat Management Area
Portion of U.S.G.S. "Jamul Mountains, California" 7.5' Quadrangle

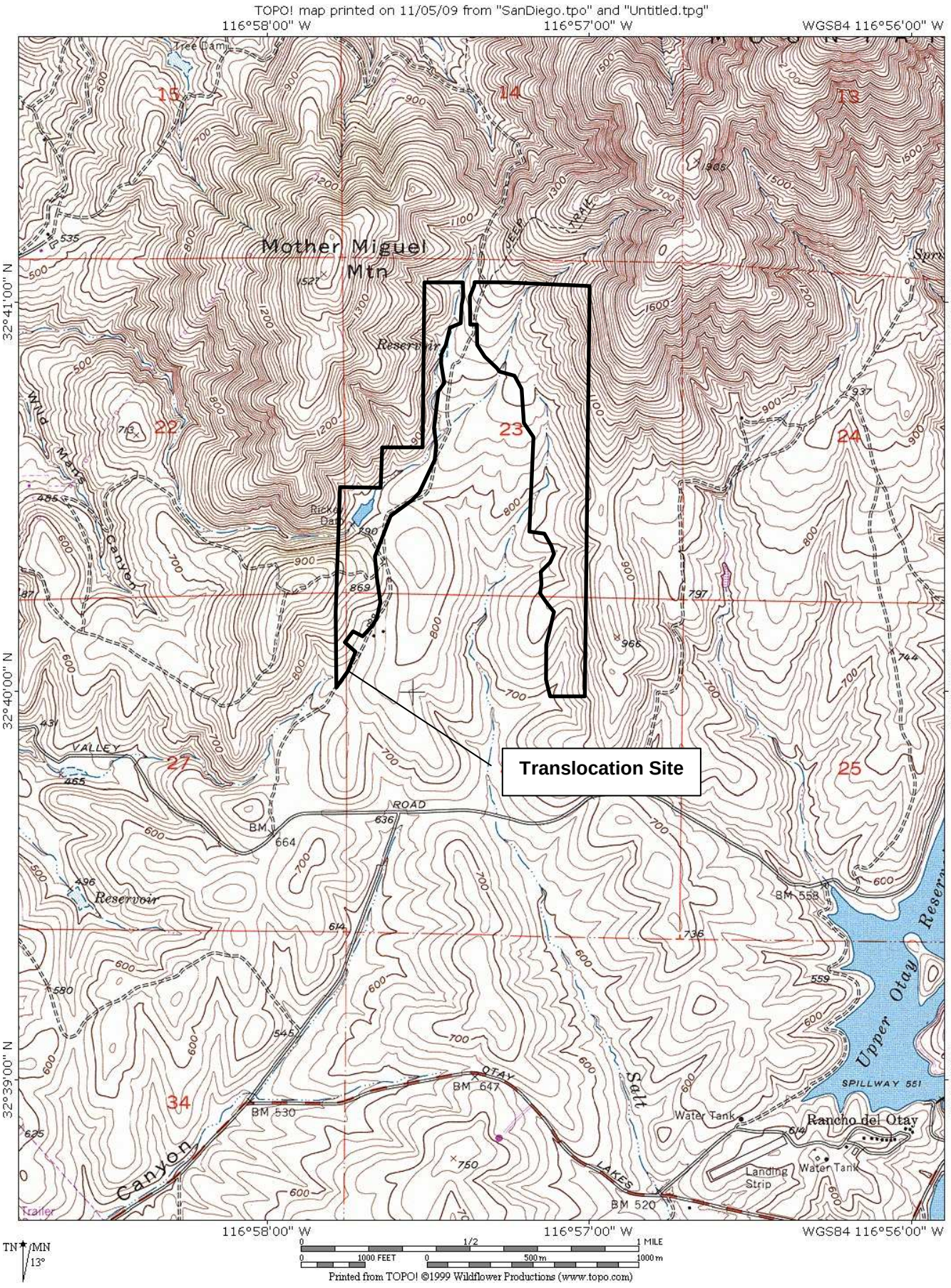
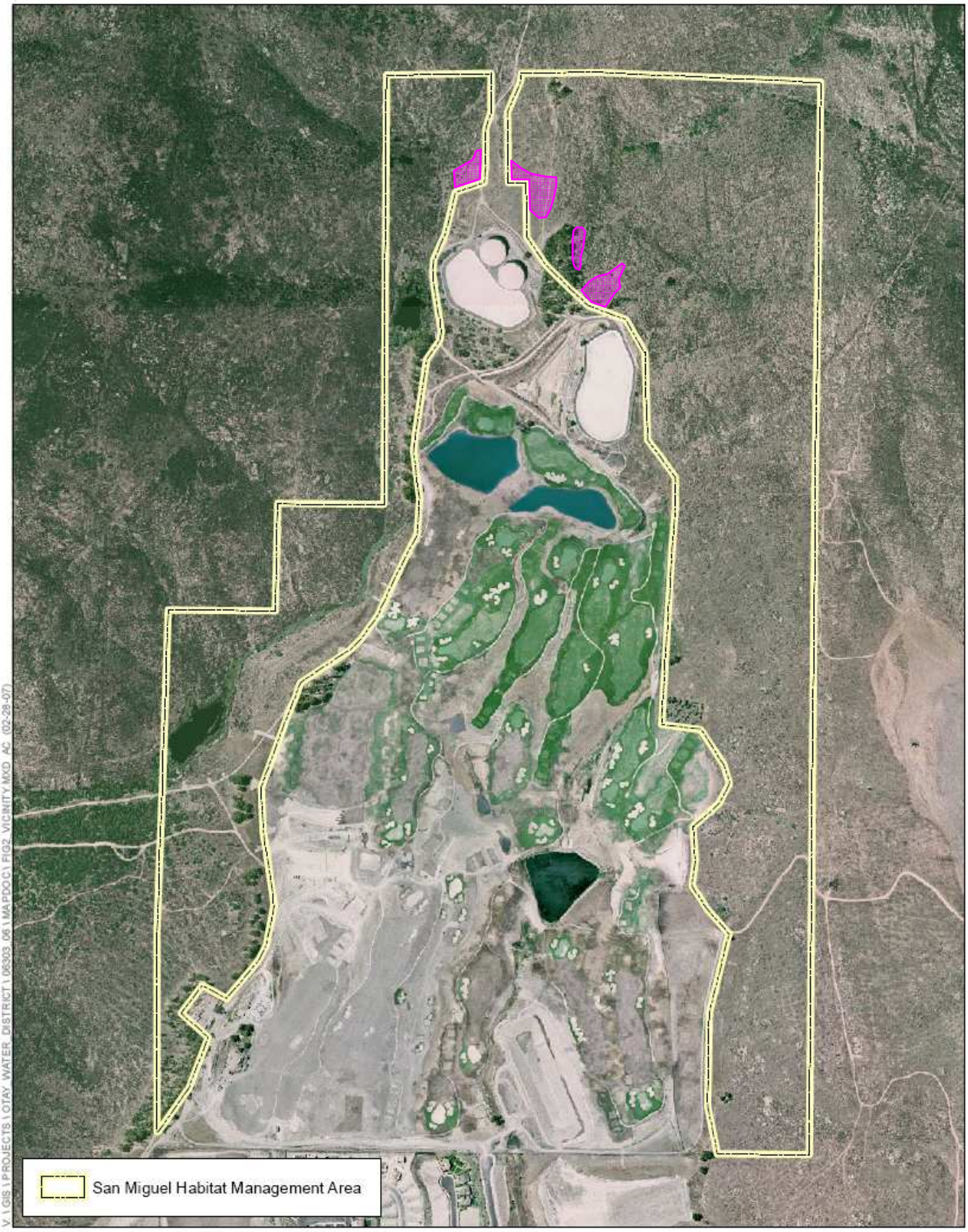


Figure 3. Aerial Showing Potential Replanting Areas within the Translocation Site (Pink polygons)



SOURCE: NAIP Imagery (2005), AMEC

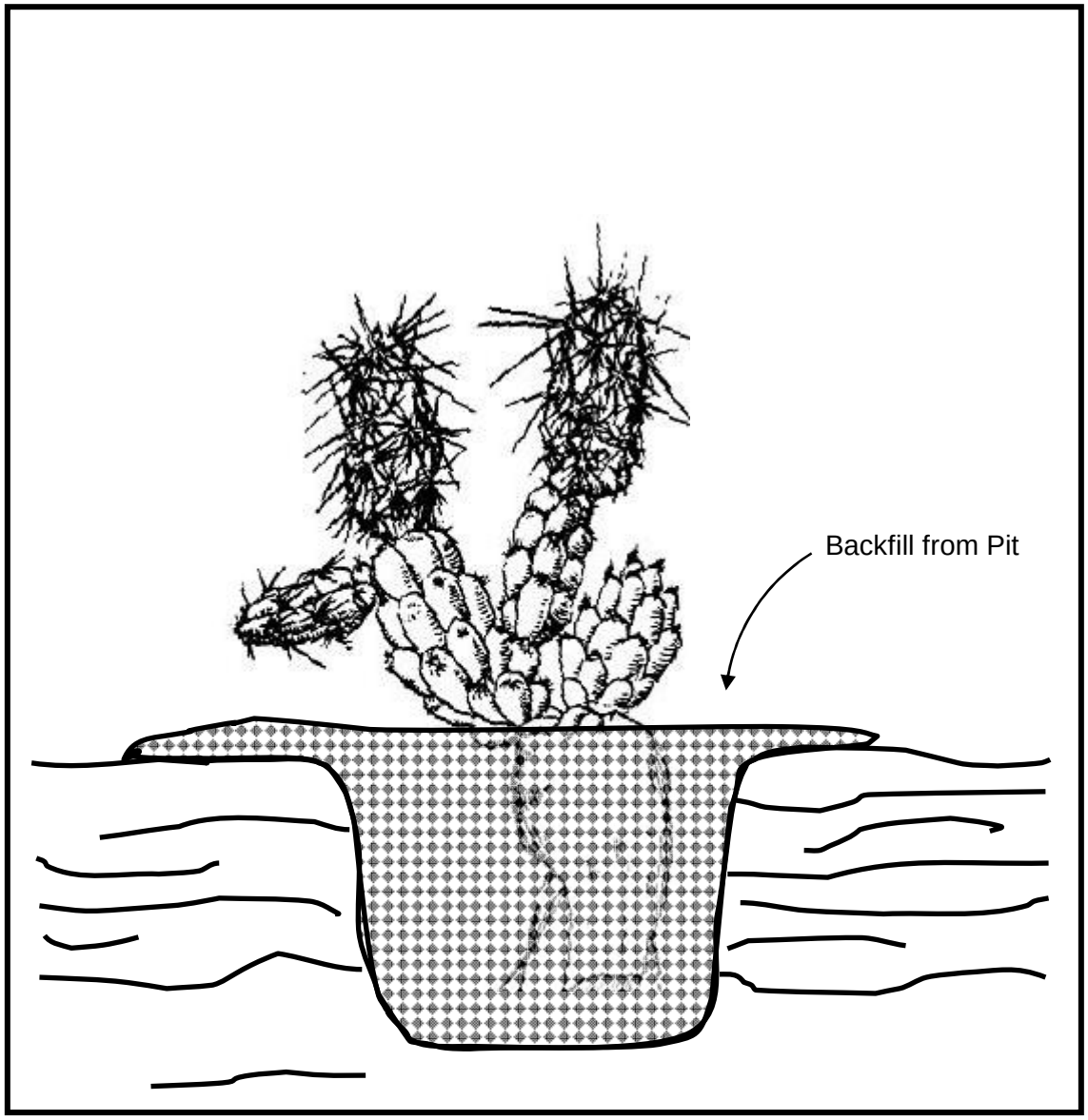
Jones & Stokes

N

0 250 500 1,000

Feet

Figure 4. Typical Planting Profile – Stem Succulent



ATTACHMENT A

PLAN PREPARER QUALIFICATIONS

SAMPLE REVEGETATION PROJECTS - DESIGN, IMPLEMENTATION, AND MONITORING

Project - **Carmel Valley Riparian Enhancement Plan**
Year - 1989
Contact / Jurisdiction - Bruce McIntyre, LMA / City of San Diego
Responsibilities - Riparian Wetland Revegetation Plan preparation

Project - **Point Loma Forced Main Sludge Line Habitat Restoration Plan**
Year - 1990
Contact / Jurisdiction - Jack Nakawatase / City of San Diego
Responsibilities - Final Coastal Sage Scrub and Maritime Succulent Scrub Revegetation Plan preparation, implementation, and 5-year monitoring

Project - **La Honda Road Widening Project**
Year - 1991
Contact / Jurisdiction - Darrell Daugherty / City of Escondido
Responsibilities - Riparian Revegetation Plan preparation

Project - **San Luis Rey Valley United Methodist Church Revegetation Plan**
Year - 1992
Contact / Jurisdiction - Morgan Brainerd / City of Oceanside
Responsibilities - Willow Woodland Restoration Plan preparation, implementation, and 3-year monitoring

Project - **Dictionary Village San Diego Barrel Cactus Transplantation Plan**
Year - 1993
Contact / Jurisdiction - Tom Olson / County of San Diego
Responsibilities - Cactus Transplantation Plan preparation, implementation, and 5-year monitoring

Project - **Buena Creek HOA Wetland Restoration Plan**
Year - 1997
Contact / Jurisdiction - Craig Lorenz / County of San Diego
Responsibilities - Oak Woodland Restoration Plan preparation and implementation

Project - **Tecalote Oaks Woodland Restoration Plan**
Year - 1997
Contact / Jurisdiction - Bill Kidoo / County of San Diego
Responsibilities - Oak Woodland Restoration Plan preparation and implementation

Project - **Mahogany Ranch Revegetation Plan**
Year - 1998
Contact / Jurisdiction - Ward Benshoof / County of San Diego
Responsibilities - Oak Woodland Restoration Plan preparation

Project – **Paradise Valley Road Revegetation Plan**
Year - 2002
Contact / Jurisdiction – Dennis Ferdig / County of San Diego
Responsibilities – Coastal Sage Scrub Restoration Plan preparation

Project – **El Dorado Ridge Cactus and Succulent Transplantation Plan**
Year - 2008
Contact / Jurisdiction – Michael Grant / City of Chula Vista
Responsibilities – Cactus and Succulent Transplantation Plan preparation

ATTACHMENT B

BIOLOGICAL RESOURCES REPORT FOR REZ 08-002

(*to be included when final iteration is available)*

ATTACHMENT C

FINAL RESOLUTION FORM OF DECISION

(*to be included when available)*